# Attachment 1a

**Academic Affairs**

**Consent Agenda Supplemental Information - Curriculum Proposals**

**FS Exec Committee Review – April 24, 2018 Meeting**

***In order by College, not by the Curriculog Agenda***

**https://kstate.curriculog.com/agenda:373/form**

| | | |
|---|---|---|
| Agriculture | Horticulture (B.S.) - Golf Course and Sports Turf Operations Option<br>Horticulture (B.S.) - Horticulture Production Option<br>Horticulture (B.S.) - Horticulture Science Option<br>Horticulture (B.S.) - Landscape Horticulture Option | Pages 2-11 |
| Arts and Sciences | Biochemistry (B.A.)<br>Biochemistry (B.S.)<br>Concurrent B.A./B.S. and M.A. in Sociology<br>Mass Communications B.A./B.S.<br>Medical Laboratory Science (B.A./B.S.)<br>Music Education (B.M.E.)<br>Political Science B.A./B.S. | Pages 12-53 |
| Business Administration | Business of Sports and Entertainment Undergrad Certificate - new<br>Professional Strategic Selling, B.S. | Pages 54-64 |
| Education | Elementary Education (B.S.) | Pages 65-69 |
| Engineering | Biomedical Engineering (BME) (B.S.)<br>Computer Science (B.S.)<br>Industrial Engineering (IE) (B.S.) | Pages 70-85 |
| Human Ecology | Apparel and Textiles (B.S.) | Pages 86-88 |
| Technology & Aviation | Engineering Technology-Electronic and Computer Engineering Technology Option (BETB-EC)<br>Engineering Technology-Robotics and Automation Option (BETB-RA) | Pages 89-91 |
| Veterinary Medicine | Agricultural Biosecurity Research Graduate Certificate - New | Pages 92-132 |

## Agriculture

### Horticulture and Natural Resources

**B.S. in Agriculture: Golf Course and Sports Turf Management Option**
**http://catalog.k-state.edu/preview_program.php?catoid=40&poid=12965**

| FROM: | | TO: | |
|---|---|---|---|
| **Technical Core** | (14 hours) | **Technical Core** | (14 hours) |
| BIOL 198* Principles of Biology | (4) | BIOL 198* Principles of Biology | (4) |
| CHM 110* General Chemistry | (3) | CHM 110* General Chemistry | (3) |
| CHM 110 General Chemistry Lab | (1) | CHM 110 General Chemistry Lab | (1) |
| MATH 100* College Algebra | (3) | MATH 100* College Algebra | (3) |
| Statistics elective | (3) | Statistics elective | (3) |
| **Communications and Interpersonal Relations** | (~~17~~ hours) | **Communications and Interpersonal Relations** | (17-19 hrs) |
| COMM 105 - Public Speaking IA | (2) | COMM 105 - Public Speaking IA | (2) |
| ENGL 100 - Expository Writing I | (3) | ENGL 100 - Expository Writing I | (3) |
| ENGL 200 - Expository Writing II | (3) | ENGL 200 - Expository Writing II | (3) |
| Communication electives | (~~9~~) | Communication electives | (9-11) |
| **Internship** | (7 hours) | **Internship** | (7 hours) |
| HORT 190* Preparing for your Horticulture Career | (1) | HORT 190* Preparing for your Horticulture Career | (1) |
| HORT 590* Hort. Internship (golf facility) | (3) | HORT 590* Hort. Internship (golf facility) | (6) |
| ~~Plus a second internship as listed below:~~ | | HORT 599 The Hort. Professional | (0) |
| ~~HORT 590* Horticulture Internship~~ | ~~(3)~~ | | |
| ~~OR~~ | | | |
| ~~HMD 495* Golf Course Internship in Hospitality Management~~ | ~~(3)~~ | | |
| HORT 599 The Hort. Professional | (0) | | |
| **Humanities and Social Sciences** | (~~12-14~~ hours) | **Humanities and Social Sciences** | (6 hours) |
| ECON 110* Prin. of Macroeconomics | (3) | ECON 110* Prin. of Macroeconomics | (3) |
| ECON 120* Prin. of Microeconomics | (3) | OR | |
| OR | | ECON 120* Prin. of Microeconomics | (3) |
| AGEC 120* Agric. Econ. & Agribus. | (3) | OR | |
| ~~Foreign Language elective~~ | ~~(3-5)~~ | AGEC 120* Agric. Econ. & Agribus. | (3) |
| Humanities and Soc. Sci. electives | (3) | Humanities and Soc. Sci. electives | (3) |
| **Business Management** | (15 hours) | **Business Management** | (15 hours) |
| ACCTG 231* Accounting for Bus. Op. | (3) | ACCTG 231* Accounting for Bus. Op. | (3) |
| ACCTG 241* Accouting for Inv. & Fin. | (3) | ACCTG 241* Accouting for Inv. & Fin. | (3) |
| MANGT 420* Management Concepts | (3) | MANGT 420* Management Concepts | (3) |
| MKTG 400* Marketing | (3) | MKTG 400* Marketing | (3) |
| Business Management elective | (3) | Business Management elective | (3) |
| **Turf Management Specialization** | (41-42 hours) | **Turf Management Specialization** | (43-44 hours) |
| AGRON 305* Soils | (4) | AGRON 305* Soils | (4) |
| ~~AGRON 375* Soil Fertility~~ | ~~(3)~~ | HORT 201* Prin. of Hort. Science | (4) |
| HORT 201* Prin. of Hort. Science | (4) | HORT 350 Plant Propagation | (3) |
| HORT 350 Plant Propagation | (3) | Hort 374 Landscape Plants I | (3) |
| Hort 374 Landscape Plants I | (3) | HORT 515* Basic Turfgrass Culture | (3) |
| HORT 515* Basic Turfgrass Culture | (~~2~~) | HORT 550 Horticultural Irrig. Systems | (3) |
| ~~HORT 516* Int. Cult. Golf/Sports Turf~~ | ~~(1)~~ | HORT 508 Sustainable Land. Maint. Practices | (2) |
| ~~HORT 517 Golf & Sports Turf Op.~~ | ~~(3)~~ | or | |
| ~~HORT 550 Landscape Irrig. Systems~~ | ~~(3)~~ | HORT 585 Arboriculture | (3) |
| HORT 582 Foundations of Hort. Pest Mgt. | (1) | HORT 570 Greenhouse Op. Management | (3) |
| | | OR | |

| | |
|---|---|
| HORT 587* Turfgrass Disease Mgt. | (1) |
| HORT 588* Turfgrass Weed Mgt. | (1) |
| ~~ENTOM 589* Turfgrass Insect Mgt.~~ | ~~(1)~~ |
| ~~HORT 706 Turfgrass Science~~ | ~~(3)~~ |
| PLPTH 500* Prin. of Plant Pathology | (3) |
| Environmental elective | (3) |
| Horticulture elective | (2-3) |
| **Hospitality electives** | (9 hours) |
| Select 9 hours from the following list: | |
| HMD 220 Environ. Issues in Hosp. | (3) |
| HMD 340 Cont. Issues in Cont. Bev. | (2) |
| HMD 341 Prin. of Food Prod. Mgt. | (3) |
| HMD 421 Hospitality Service Systems | (3) |
| HMD 331 Professional Club Mgt. | (3) |
| HMD 424 Hosp. Marketing & Sales | (3) |
| HMD 621 Hospitality Law | (3) |
| **Free electives** | **~~(8-11 hours)~~** |
| **Total Credit Hours** | **(~~126~~ hours)** |

**Electives From Which to Choose:**

| | |
|---|---|
| **Business Management Electives** | **3** |
| AGEC 202* Small Business Operations | 3 |
| FINAN 450* Principles of Finance | 3 |
| MANGT 390* Business Law 1 | 3 |
| ENTRP 340* Intro. to Entrepreneurship | 3 |
| FINAN 460* Insurance | 3 |
| MKTG 450* Consumer Behavior | 3 |
| **Communications Electives** | **~~9~~** |
| AGCOM 400 Agric. Business Comm. | 3 |
| ENGL 300 Expository Writing III | 3 |
| ENGL 516 Written Comm. for the Sci. | 3 |
| MKTG 542* Personal Selling & Sales Mgt. | 3 |
| COMM 311* Bus. and Prof. Speaking | 3 |
| COMM 321* Public Speaking II | 3 |
| COMM 322* Interpersonal Comm. | 3 |
| COMM 323* Nonverbal Comm. | 3 |
| COMM 325* Argumentation & Debate | 3 |
| COMM 326* Small Group Disc. Meth. | 3 |
| **Environmental Elective** | **3** |
| AGRON 335* Environmental Quality | 3 |
| PMC 275* Intro. to Natural Resource Mgt. | 3 |
| HORT 405* Water Iss./Lawn & Landscape | 3 |
| LAR 322* Env. Issues & Ethics | 3 |
| **~~Foreign Language Elective~~** | **~~3-5~~** |
| ~~Any introductory (or higher) course in a Modern Language. One of the following is preferred:~~ | |

| | |
|---|---|
| HORT 600 Herbaceous Crop Production | (3) |
| HORT 582 Foundations of Hort. Pest Mgt. | (1) |
| HORT 587* Turfgrass Disease Mgt. | (1) |
| HORT 588* Turfgrass Weed Mgt. | (1) |
| HORT 706 Advanced Culture of Golf and Sports Turf | (3) |
| Entomology elective | (3) |
| PLPTH 500* Prin. of Plant Pathology | (3) |
| Environmental elective | (3) |
| Horticulture elective | (3) |
| **Hospitality electives** | (9 hours) |
| Select 9 hours from the following list: | |
| HMD 220 Environ. Issues in Hosp. | (3) |
| HMD 340 Cont. Issues in Cont. Bev. | (2) |
| HMD 341 Prin. of Food Prod. Mgt. | (3) |
| HMD 421 Hospitality Service Systems | (3) |
| HMD 331 Professional Club Mgt. | (3) |
| HMD 424 Hosp. Marketing & Sales | (3) |
| HMD 621 Hospitality Law | (3) |
| **Free electives** | (6-9 hours) |
| **Total Credit Hours** | **(120 hours)** |

**Electives From Which to Choose:**

| | |
|---|---|
| **Business Management Electives** | **3** |
| AGEC 202* Small Business Operations | 3 |
| FINAN 450* Principles of Finance | 3 |
| MANGT 390* Business Law 1 | 3 |
| ENTRP 340* Intro. to Entrepreneurship | 3 |
| FINAN 460* Insurance | 3 |
| MKTG 450* Consumer Behavior | 3 |
| **Communications Electives** | **9-11** |
| AGCOM 400 Agric. Business Comm. | 3 |
| ENGL 300 Expository Writing III | 3 |
| ENGL 516 Written Comm. for the Sci. | 3 |
| MKTG 542* Personal Selling & Sales Mgt. | 3 |
| COMM 311* Bus. and Prof. Speaking | 3 |
| COMM 321* Public Speaking II | 3 |
| COMM 322* Interpersonal Comm. | 3 |
| COMM 323* Nonverbal Comm. | 3 |
| COMM 325* Argumentation & Debate | 3 |
| COMM 326* Small Group Disc. Meth. | 3 |
| Any introductory (or higher) course in a Modern Language. | 3-5 |
| **Environmental Elective** | **3** |
| AGRON 335* Environmental Quality | 3 |
| PMC 275* Intro. to Natural Resource Mgt. | 3 |
| HORT 405* Water Iss./Lawn & Landscape | 3 |
| LAR 322* Env. Issues & Ethics | 3 |
| **Horticulture Elective** | **2-3** |
| AGRON 375 – Soil Fertility | 3 |
| AGRON 746 Physical Properties of Soil | 3 |

| | |
|---|---|
| ~~SPAN 161* Spanish 1 5~~ | HORT 375 Landscape Plants II 3 |
| ~~SPAN 162* Spanish 2 5~~ | HORT 405* Water Iss./Lawn & Landscape 3 |
| ~~SPAN 261* Spanish 3 5~~ | HORT 508* Sust. Landscape Maint. Pract. 2 |
| ~~SPAN 361* Spanish 4 4~~ | HORT 585* Arboriculture 3 |
| | (HORT 508 or 585 cannot be taken to fulfill *both* Turf Mgmt Specialization and Hort Elective requirement) |
| **Horticulture Elective 2-3** | HORT 790* Sustainable Agriculture 2 |
| AGRON 746 Physical Properties of Soil 3 | PLPTH 590* Landscape Diseases 2 |
| HORT 375 Landscape Plants II 3 | |
| HORT 405* Water Iss./Lawn & Landscape 3 | |
| HORT 508* Sust. Landscape Maint. Pract. 2 | **Statistics Elective 3** |
| HORT 585* Arboriculture 3 | STAT 325* Intro. to Statistics 3 |
| HORT 790* Sustainable Agriculture 2 | STAT 340* Biometrics I 3 |
| PLPTH 590* Landscape Diseases 2 | STAT 350* Bus. and Economic Statistics I 3 |
| **Statistics Elective 3** | **Entomology Elective 3** |
| STAT 325* Intro. to Statistics 3 | ENTOM 312 General Entomology 3 |
| STAT 340* Biometrics I 3 | ENTOM 320 Economic Entomology 3 |
| STAT 350* Bus. and Economic Statistics I 3 | |

RATIONALE: This proposed curriculum change responds to the Kansas Board of Regents' mandate to reduce graduation requirements to 120 credit hours. The revision also aims to improve advising efficiency, enhance student accessibility to courses, strengthen the common core of Horticulture courses to advance our assessment program, and respond to staffing limitations.

IMPACT: These changes could potentially influence enrollment in Modern Languages courses, although not significantly because advisors will continue to recommend courses there. The Modern Languages department has been notified of the changes (see attached communication). Added email communication with College of Human Ecology as requested by Faculty Senate - Academic Affairs Committee. Added email notification to Economics as requested by Faculty Senate Exec.

## Horticulture (B.S.) - Horticulture Production Option

http://catalog.k-state.edu/preview_program.php?catoid=40&poid=12967

| | |
|---|---|
| **Communications** (14-16 hours) | **Communications** (11-13 hours) |
| ENGL 100 - Expository Writing I (3) | ENGL 100 - Expository Writing I (3) |
| ENGL 200 - Expository Writing II (3) | ENGL 200 - Expository Writing II (3) |
| COMM 105 - Public Speaking IA (2) | COMM 105 - Public Speaking IA (2) |
| ~~Communication elective (3)~~ | Communication/Non-English Language elective (3-5) |
| ~~Modern~~ Language elective (3-5) | |
| | **Humanities/Social Sciences Electives** (6 hours) |
| **Humanities/Social Sciences Electives** (6 hours) | Elective (3) |
| Elective (3) | Elective (3) |
| Elective (3) | |
| | **Quantitative Sciences** (15 hours) |
| **Quantitative Sciences** (15 hours) | BIOCHM 265* - Intro. Organic Biochemistry (5) |
| BIOCHM 265* - Intro. Organic Biochemistry (5) | CHM 110* - General Chemistry (3) |
| CHM 110* - General Chemistry (3) | and |
| and | CHM 111* - General Chemistry Laboratory (1) |
| CHM 111* - General Chemistry Laboratory (1) | MATH 100* – College Algebra (3) |
| MATH 100* – College Algebra (3) | Math/Physics/Statistics elective (3) |

| | |
|---|---|
| Math/Physics/Statistics elective | (3) |
| | |
| **Biological/Environmental Sciences** | (24-25 hours) |
| AGRON 305* - Soils | (4) |
| BIOL 198* - Principles of Biology | (4) |
| BIOL 500 – Plant Physiology | (3-4) |
| HORT 201* – Princ. of Horticulture Science | (4) |
| PLPTH 500* – Princ. Plant Pathology | (3) |
| Environmental Science/Biology elective | (3) |
| Entomology elective | (3) |
| | |
| **Econ/Business ~~Electives~~** | (~~15~~ hours) |
| ACCTG 231* – Accounting for Bus. Ops. | (3) |
| ECON 110* – Princ. of Macroeconomics | (3) |
| ~~or~~ | |
| ECON 120* – Princ. of Microeconomics | (3) |
| ~~Econ./Business electives~~ | ~~(9)~~ |
| | |
| **Horticulture Core Requirements** | (~~14~~ hours) |
| HORT 190* - Preparing for your Horticulture Career | (1) |
| HORT 350 – Plant Propagation | (3) |
| HORT 374 – Landscape Plants I | (3) |
| HORT 520* – Fruit Production | (3) |
| or | |
| HORT 560* – Vegetable Crop Production | (3) |
| or | |
| HORT 570* – Greenhouse Operations Mgmt. | (3) |
| or | |
| ~~HORT 575* – Nursery Management~~ | ~~(3)~~ |
| HORT 582 – Foundations of Hort. Pest Mgt. | (1) |
| HORT 590* – Hort. Internship | (3) |
| HORT 599 – Hort.Professional | (0) |
| | |
| **Horticulture Production Specialization** | (~~14~~ hours) |
| HORT 375 – Landscape Plants II | (3) |
| PLPTH 590 – Landscape Diseases | (2) |
| OR | |
| ~~Pest Mgmt. Elective~~ | ~~(2)~~ |
| ~~HORT 600* – Herbaceous Crop Production~~ | ~~(3)~~ |
| | |
| ~~Plus, choose two of the following courses:~~ | |
| ~~HORT 520* – Fruit Production~~ | ~~(3)~~ |
| ~~HORT 560* – Vegetable Crop Production~~ | ~~(3)~~ |
| ~~HORT 570* – Greenhouse Operations Mgmt.~~ | ~~3)~~ |
| | |
| ~~**Specialization Electives**~~ | ~~( 20 hours)~~ |
| *Select ~~20~~ credit hours from the list below.* | |
| | |
| HORT 210 – Concepts of Floral Design | (3) |
| HORT 275* – Horticultural Design I | (3) |
| HORT 325* – Intro. Organic Farming | (2) |
| AGRON 330* – Weed Science | (3) |
| AGRON 375 – Soil Fertility | (3) |

| | |
|---|---|
| | |
| **Biological/Environmental Sciences** | (24-25 hours) |
| AGRON 305* - Soils | (4) |
| BIOL 198* - Principles of Biology | (4) |
| BIOL 500 – Plant Physiology | (3-4) |
| HORT 201* – Princ. of Horticulture Science | (4) |
| PLPTH 500* – Princ. Plant Pathology | (3) |
| Environmental Science/Biology elective | (3) |
| Entomology elective | (3) |
| | |
| **AgEcon/Econ/Business/<u>Entrepreneurship</u>** | (<u>12</u> hours) |
| ECON 110* – Princ. of Macroeconomics | (3) |
| Or | |
| ECON 120* – Princ. of Microeconomics | (3) |
| Or | |
| <u>AGEC 120* Agr. Econ. and Agribus</u>. | (3) |
| ACCTG 231* – Accounting for Bus. Ops. | (3) |
| <u>Ag.Econ./Econ/Business/Entrepreneurship Elective</u> | (3) |
| <u>Ag.Econ./Econ/Business/Entrepreneurship Elective</u> | (3) |
| | |
| **Horticulture Core Requirements** | (<u>23</u> hours) |
| HORT 190* - Preparing for your Horticulture Career | (1) |
| HORT 350 – Plant Propagation | (3) |
| HORT 374 – Landscape Plants I | (3) |
| HORT 520* – Fruit Production | (3) |
| or | |
| HORT 560* – Vegetable Crop Production | (3) |
| <u>HORT 550 – Horticultural Irrigation Systems</u> | (3) |
| HORT 570* – Greenhouse Operations Mgmt. | (3) |
| HORT 582 – Foundations of Hort. Pest Mgt. | (1) |
| HORT 590* – Hort. Internship | (3) |
| HORT 599 – Hort.Professional | (0) |
| <u>HORT 600 – Herbaceous Crop Production</u> | (3) |
| | |
| **Horticulture Production Specialization** | (<u>26 hours</u>) |
| HORT 375 – Landscape Plants II | (3) |
| PLPTH 590 – Landscape Diseases | 2) |
| OR | |
| <u>HORT 587* Turfgrass Disease Mgt.</u> | (1) |
| <u>HORT 588* Turfgrass Weed Mgt.</u> | (1) |
| <u>*Plus, select 21 credit hours from the list below.*</u>(21 hours) | |
| | |
| HORT 210 – Concepts of Floral Design | (3) |
| HORT 275* – Horticultural Design 1 | (3) |
| <u>HORT 301 – Horticulture Practicum</u> | (1-3) |
| <u>HORT 390 – Horticulture Topics</u> | (1-3) |
| ~~HORT 325* – Intro. Organic Farming~~ | ~~(2)~~ |
| <u>HORT 377 – Interior Plantscaping</u> | (3) |
| AGRON 330* – Weed Science | (3) |
| AGRON 375 – Soil Fertility | (3) |
| <u>HORT 495 – Undergraduate Research in Hort.</u> | (3) |
| HORT 508 – Sustainable Land. Maint. Practices | (2) |

| | |
|---|---|
| HORT 508 – Sustainable Land. Maint. Practices | (2) |
| HORT 515* – Basic Turfgrass Culture | (2) |
| HORT 520* – Fruit Production | (3) |
| HORT 550 – Landscape Irrigation Systems | (3) |
| HORT 551 – Landscape Contracting/Constr. | (3) |
| HORT 560* – Vegetable Crop Production | (3) |
| ~~HORT 570* – Greenhouse Operations Mgmt.~~ | ~~(3)~~ |
| HORT 575* – Nursery Management | (3) |
| HORT 585* – Arboriculture | (3) |
| HORT 640 – Prb./~~Landscape Irrigation Design~~ | ~~(3)~~ |
| HORT 625* – Floral Crops Prod./Handling | (2) |
| HORT 710 – Plant Cell, Tissue & Organ Cult. | (3) |
| HORT 780 – Health-Promoting Phytochemicals: Fruits and Vegetables | (2) |
| HORT 790* – Sustainable Agriculture | (2) |
| HORT 791* – Urban Agriculture | (2) |
| PLPTH 590 – Landscape Diseases | (2) |

**Free Electives** **(~~0~~ ~~5~~ credit hours)**

**Total Credits for Graduation** **(~~126~~ credit hours)**

**DESIGNATED ELECTIVES**
(NOTE: Confer with advisor to select appropriate courses.)

**Econ./Business Electives** **(~~9~~ hours)**
Any ACCTG course 200 or above excl. ACCTG 231
AGEC 120* Agr. Econ. and Agribus. 3 (F,S)
(Select only if ECON 120 not taken)
Any AGEC course 200 or above
Any MANGT course 300 or above
MC 120* Principles of Advertising 3 (F,S)
MC 180 Fund. of Public Relations 3 (F,S)
Any MKTG course 300 or above
Any ECON course 300 or above

**Communications Electives** 3
~~AGCOM 400 Agric. Business Comm. 3~~
~~ENGL 300 Expository Writing III 3~~
~~ENGL 516 Written Comm. for the Sci. 3~~
~~MKTG 542* Personal Selling & Sales Mgt. 3~~
~~COMM 311* Bus. and Prof. Speaking 3~~
~~COMM 321* Public Speaking II 3~~
~~COMM 322* Interpersonal Comm. 3~~
~~COMM 323* Nonverbal Comm. 3~~
~~COMM 325* Argumentation & Debate 3~~
~~COMM 326* Small Group Disc. Meth. 3~~

**Entomology Elective** **3 hrs.**
ENTOM 300* Economic Entomology 3 (S)
ENTOM 312* General Entomology 3 (F)
~~ENTOM 320* Horticultural Entomology 3 (F)~~

| | |
|---|---|
| HORT 515* – Basic Turfgrass Culture | (3) |
| HORT 520* – Fruit Production | (3) |
| HORT 551 – Landscape Contracting/Constr. | (3) |
| HORT 560* – Vegetable Crop Production | (3) |
| HORT 575* – Nursery Management | (3) |
| HORT 585* – Arboriculture | (3) |
| HORT 595* - Horticulture Study Abroad | (3) |
| HORT 640 – Horticulture Problems | (0-3) |
| HORT 625* – Floral Crops Prod./Handling | (2) |
| HORT 710 – Plant Cell, Tissue & Organ Cult. | (3) |
| HORT 780 – Health-Promoting Phytochemicals: Fruits and Vegetables | (2) |
| HORT 790* – Sustainable Agriculture | (2) |
| HORT 791* – Urban Agriculture | (2) |
| Any Biology or Agronomy course 300 or above | (3) |

**Free Electives** **(0-3 credit hours)**

**Total Credits for Graduation** **(120 credit hours)**

**DESIGNATED ELECTIVES**
(NOTE: Confer with advisor to select appropriate courses.)
**AgEcon/Econ/Business/Entreprn. Electives** (12 hours)
Any ACCTG course 200 or above excl. ACCTG 231
Econ 110 Macroeconomics 3
AGEC 120* Agr. Econ. and Agribus. 3 (F,S)
(Select only if ECON 120 not taken)
Any AGEC course 200 or above
Any MANGT course 300 or above
MC 120* Principles of Advertising 3 (F,S)
MC 180 Fund. of Public Relations 3 (F,S)
Any MKTG course 300 or above
Any ECON course 300 or above
Any Entrpreneurship course

**Communications Electives** **3-5**
Includes any course at 300-level or above from:
AGCOM, COMM, or ENGL
or HORT 595 Horticulture Study Abroad
or any non-English language course.

**Entomology Elective** **3**
ENTOM 300 Economic Entomology 3
ENTOM 312* General Entomology 3

**Environmental Science Elective** **3**
AGRON 335* Environmental Quality 3
PMC 275* Intro. to Natural Resource Mgt. 3
HORT 405* Water Iss./Lawn & Landscape 3
LAR 322* Env. Issues & Ethics 3

| | |
|---|---|
| **Environmental Elective** **3**<br>AGRON 335* Environmental Quality 3<br>PMC 275* Intro. to Natural Resource Mgt. 3<br>HORT 405* Water Iss./Lawn & Landscape 3<br>LAR 322* Env. Issues & Ethics 3<br><br>~~**Foreign Language Elective 3-5**~~<br>~~Any introductory (or higher) course in a Modern Language. Preferred course:~~<br>~~SPAN 161* Spanish 1 5~~<br><br>~~**Plant Materials Elective 6 hrs.**~~<br>~~HORT 374 Landscape Plants I 3 (F)~~<br>~~HORT 375 Landscape Plants II 3 (S)~~<br><br>**Statistics Elective** **3**<br>STAT 325* Intro. to Statistics 3<br>STAT 340* Biometrics I 3<br>STAT 350* Bus. and Economic Statistics I 3 | **Statistics Elective** **3**<br>STAT 325* Intro. to Statistics 3<br>STAT 340* Biometrics I 3<br>STAT 350* Bus. and Economic Statistics I 3 |

RATIONALE: This proposed curriculum change responds to the Kansas Board of Regents' mandate to reduce graduation requirements to 120 credit hours. The revision also aims to improve advising efficiency, enhance student accessibility to courses, strengthen the common core of Horticulture courses to advance our assessment program, and respond to staffing limitations.

IMPACT: These changes could potentially influence enrollment in Modern Languages courses, although not significantly because advisors will continue to recommend courses there. The Modern Languages department has been notified of the changes (see attached communication). Added email communications with College of Business as requested by Faculty Senate Academic Affairs Committee. Added email notification to Economics as requested by Faculty Senate Exec.

## Horticulture (B.S.) - Horticulture Science Option –

**http://catalog.k-state.edu/preview_program.php?catoid=40&poid=12963**

| | |
|---|---|
| **Communications** (~~17-19~~ credit hours)<br><br>ENGL 100 - Expository Writing I (3)<br>ENGL 200 - Expository Writing II (3)<br>COMM 105 - Public Speaking IA (2)<br>~~Foreign~~ Language Elective (3-5)<br>~~Speech Elective (3)~~<br>Writing Elective (3) | **Communications** (14-16 hours)<br><br>ENGL 100 - Expository Writing I (3)<br>ENGL 200 - Expository Writing II (3)<br>COMM 105 - Public Speaking IA (2)<br>Writing Elective (3)<br>Communication elective (3-5)<br><br>**Humanities/Social Sciences Electives** (6 hours) |

**Humanities/Social Sciences Electives** (6 credit hours)

~~GEOG 100 – World Regional Geography (3)~~
~~or~~
~~PSYCH 110 – General Psychology (3)~~
~~or~~
~~SOCIO 211 – Intro to Sociology (3)~~
Humanities elective (3)

**Quantitative Sciences (22 credit hours)**

CHM 210 – Chemistry I (4)
CHM 230 – Chemistry II (4)
CHM 350 – Gen. Organic Chemistry (3)
MATH 205 – Gen. Calc. & Lin. Algebra (3)
PHYS 115 – Descriptive Physics (5)
Statistics Elective (3)

**Agric./Biological Sciences (~~33–34~~ credit hours)**

AGRON 305 - Soils (4)
ASI 500 – Genetics (3)
or
BIOL 450 – Modern Genetics (3)
BIOCH 521 – Gen. Biochemistry (3)
BIOCH 522 – Gen. Biochemistry Lab (2)
BIOL 198 - Principles of Biology (4)
BIOL 500 – Plant Physiology (3)
BIOL 501 – Plant Physiology Lab (1)
HORT 201 – Princ. of Horticulture Science (4)
PLPTH 500 – Princ. Plant Pathology (3)
PLPTH 590 –Landscape Plant Diseases (2)
Biology Elective (3-4)
Entomology Elective (3)

**Ag. Econ./Business Electives (6 credit hours)**
ACCTG 231 – Accounting for Bus. Opers. (3)
ECON 110 – Princ. of Macroeconomics (3)
~~or~~
ECON 120 – Princ. of Microeconomics (3)

**Horticulture Requirement (~~19–20~~ credit hours)**

HORT 190- Pre-Internship in Horticulture (1)
HORT 350 – Plant Propagation (3)
HORT 520 – Fruit Production (3)
or
HORT 560 – Vegetable Crop Production (3)
HORT 570 – Greenhouse Ops. Mgt. (3)
HORT 582 – Foundations of Hort. Pest Mgt. (1)

**Quantitative Sciences** (22 hours)

| | |
|---|---|
| CHM 210 – Chemistry I | (4) |
| CHM 230 – Chemistry II | (4) |
| CHM 350 – Gen. Organic Chemistry | (3) |
| MATH 205 – Gen. Calc. & Lin. Algebra | (3) |
| PHYS 115 – Descriptive Physics | (5) |
| Statistics Elective | (3) |

**Agric./Biological Sciences** (<u>35-36</u> hours)

| | |
|---|---|
| AGRON 305 - Soils | (4) |
| ASI 500 – Genetics | (3) |
| or | |
| BIOL 450 – Modern Genetics | (3) |
| BIOCH 521 – Gen. Biochemistry | (3) |
| BIOCH 522 – Gen. Biochemistry Lab | (2) |
| BIOL 198 - Principles of Biology | (4) |
| BIOL 500 – Plant Physiology | (3) |
| BIOL 501 – Plant Physiology Lab | (1) |
| HORT 201 – Princ. of Horticulture Science | (4) |
| PLPTH 500 – Princ. Plant Pathology | (3) |
| PLPTH 590 –Landscape Plant Diseases | (2) |
| Biology Elective<u>/Environmental Sci. Elect.</u> | (3-4) |
| Entomology Elective | (3) |

**AgEcon/Econ/Business Elect.** **(**6 hours)

| | |
|---|---|
| ACCTG 231 – Accounting for Bus. Opers. | (3) |
| ECON 110 – Princ. of Macroeconomics | (3) |
| Or | |
| ECON 120 – Princ. of Microeconomics | (3) |
| <u>or</u> | |
| <u>AGEC 120 Agr. Econ. and Agribus.</u> | <u>(3)</u> |

**Horticulture Requirement** (<u>23</u> hours)

| | |
|---|---|
| HORT 190- Pre-Internship in Horticulture | (1) |
| HORT 350 – Plant Propagation | (3) |
| HORT 520 – Fruit Production | (3) |
| or | |
| HORT 560 – Vegetable Crop Production | (3) |
| HORT 570 – Greenhouse Ops. Mgt. | (3) |
| HORT 582 – Foundations of Hort. Pest Mgt. | (1) |
| HORT 590 – Hort. Internship | <u>(3)</u> |

| | |
|---|---|
| HORT 590 – Hort. Internship (~~2~~ 3)<br>HORT 599 – The Horticultural Professional (0)<br>HORT 710 – Plant Cell. Tissue & Organ Cult. (3)<br>~~Environmental Science Elective (3)~~<br><br>**Plant Science Electives (15 credit hours)**<br>Any Horticulture 300 level or above not otherwise required with up to:<br>3 credits from Plant Pathology 500 level or above excluding PLPTH 500;<br>3 credits from Entomology 500 level or above;<br>3 credits from Agronomy 300 level or above, excluding AGRON 305<br><br>**Free Electives (~~4~~ ~~8~~ credit hours)**<br><br>**Total Credits for Graduation (~~126~~ credit hours)** | HORT 599 – The Horticultural Professional (0)<br>HORT 710 – Plant Cell. Tissue & Organ Cult. (3)<br>HORT 300-799 (6)<br><br>**Plant Science Electives** (9 hours)<br><br>Select 9 hours from:<br>BIOL 502-799<br>PLPTH 501-799<br>ENTOM 500-799<br>AGRON 300-799<br>HORT 300-799<br><br>**Free Electives (5 credit hours)**<br><br>**Total Credits for Graduation (120 credit hours)** |

RATIONALE: This proposed curriculum change responds to the Kansas Board of Regents' mandate to reduce graduation requirements to 120 credit hours. The revision also aims to improve advising efficiency, enhance student accessibility to courses, strengthen the common core of Horticulture courses to advance our assessment program, and respond to staffing limitations.

IMPACT: These changes could potentially influence enrollment in Division of Biology and Modern Languages courses, although not significantly because advisors will continue to recommend courses in both areas. Both programs have been notified of the changes (see attached communication). Added email communication with College of Business as requested by Faculty Senate Academic Affairs. Added email notification of Economics as requested by Faculty Senate Exec.

## Horticulture (B.S.) - Landscape Horticulture Option

**http://catalog.k-state.edu/preview_program.php?catoid=40&poid=12969**

FROM:

| | |
|---|---|
| **Communications** (14-16 hours) | |
| COMM 105 - Public Speaking IA | (2) |
| ENGL 100 - Expository Writing I | (3) |
| ENGL 200 - Expository Writing II | (3) |
| ~~Communication elective~~ | ~~(3)~~ |
| ~~Modern~~ Language elective | (3-5) |
| **Humanities/Social Sciences Electives** | (6 hours) |
| Elective | (3) |
| Elective | (3) |
| ~~**Biological/**~~**Quantitative Sciences** | (~~22~~ hours) |
| BIOCHM 265 - Intro. Organic Biochemistry | (5) |
| ~~BIOL 198 - Principles of Biology~~ | ~~(4)~~ |

TO:

| | |
|---|---|
| **Communications** (11-13 hours) | |
| COMM 105 - Public Speaking IA | (2) |
| ENGL 100 - Expository Writing I | (3) |
| ENGL 200 - Expository Writing II | (3) |
| Communication elective | (3-5) |
| **Humanities/Social Sciences Electives** | (6 hours) |
| **Quantitative Sciences** | (15 hours) |
| BIOCHM 265 - Intro. Organic Biochemistry | (5) |
| CHM 110 - General Chemistry | (3) |

| | |
|---|---|
| ~~BIOL 500 – Plant Physiology (3-4)~~ | |
| CHM 110 - General Chemistry | (3) |
| and | |
| CHM 111 - General Chemistry Laboratory | (1) |
| MATH 100 – College Algebra | (3) |
| Math/Physics/Statistics Elective | (3) |
| **Econ/Business Electives** | (~~15 hours~~) |
| ACCTG 231 – Accounting for Bus. Ops. | (3) |
| ECON 110 – Princ. of Macroeconomics | (3) |
| or | |
| ECON 120 – Princ. of Microeconomics | (3) |
| ~~Econ./Business electives (9)~~ | |
| **Horticulture Core Requirements** | (~~28 hours~~) |
| ~~AGRON 305 – Soils (4)~~ | |
| HORT 190 -Preparing for Your Horticulture Career | (1) |
| HORT 201 – Princ. of Horticulture Science | (4) |
| HORT 350 – Plant Propagation | (3) |
| HORT 374 – Landscape Plants I | (3) |
| HORT 582 – Foundations of Hort. Pest Mgt. | (1) |
| HORT 590 – Hort. Internship | (3) |
| HORT 599 – The Horticultural Professional | (0) |
| ~~PLPTH 500 – Princ. Plant Pathology (3)~~ | |
| ~~Entomology elective (3)~~ | |
| ~~Environmental Sci./Biology Elective (3)~~ | |
| **Landscape Core Requirements** | (~~20~~ hours) |
| HORT 375 – Landscape Plants II | (3) |
| HORT 515 – Basic Turfgrass Culture | (~~2~~) |
| HORT 508 – Sustainable Land. Maint. Pract. | (2) |
| HORT 550 – ~~Landscape Irrigation Systems~~ | (3) |
| HORT 551 – The Bus. of Landscape Contracting | (1) |
| HORT 552 – Hort. Landscape Construction | (1) |
| HORT 585 – Arboriculture | (3) |
| HORT 587, 588, or ~~589 Pest Mgmt. elective~~ | (2) |
| or | |
| PLPTH 590 – Landscape Diseases | (2) |
| *Plus, select one of the following:* | |
| HORT 275 – Horticultural Design 1 | (3) |
| HORT 520 – Fruit Production | (3) |
| HORT 560 – Vegetable Crop Production | (3) |
| ~~HORT 570 – Greenhouse Ops. Management (3)~~ | |
| **Specialization Electives** | (~~16-19~~ hours) |
| *Select 16-19 hours from the list below.* | |
| AGRON 330 – Weed Science | (3) |
| AGRON 375 – Soil Fertility | (3) |
| HORT 210 – Concepts of Floral Design | (3) |
| ~~HORT 275 – Horticultural Design 1 (3)~~ | |

| | |
|---|---|
| and | |
| CHM 111 - General Chemistry Laboratory | (1) |
| MATH 100 – College Algebra | (3) |
| Math/Physics/Statistics Elective | (3) |
| **Biological/Environmental Sciences** | (20 hours) |
| AGRON 305 - Soils | (4) |
| BIOL 198 - Principles of Biology | (4) |
| BIOL 500 – Plant Physiology | (3) |
| PLPTH 500 – Princ. Plant Pathology | (3) |
| Environmental Science/Biology elective | (3) |
| Entomology elective | (3) |
| **AgEcon/Econ/Business/Entrepreneurship** | (12 hours) |
| ECON 110 – Princ. of Macroeconomics | (3) |
| Or | |
| ECON 120 – Princ. of Microeconomics | (3) |
| Or | |
| AGEC 120 Agr. Econ. and Agribus. | (3) |
| ACCTG 231 – Accounting for Bus. Ops. | (3) |
| Ag.Econ./Econ/Business/Entrepreneurship Electives | (6) |
| **Horticulture Core Requirements** | (24 hours) |
| HORT 190 - Preparing for your Horticulture Career | (1) |
| HORT 201 – Princ. of Horticulture Science | (4) |
| HORT 350 – Plant Propagation | (3) |
| HORT 374 – Landscape Plants I | (3) |
| HORT 550 – Horticultural Irrigation Systems | (3) |
| HORT 570 – Greenhouse Operations Mgmt. | (3) |
| HORT 582 – Foundations of Hort. Pest Mgt. | (1) |
| HORT 590 – Hort. Internship | (3) |
| HORT 599 – The Horticultural Professional | (0) |
| HORT 600 – Herbaceous Crop Production | (3) |
| **Landscape Core Requirements** | (18 hours) |
| HORT 375 – Landscape Plants II | (3) |
| HORT 515 – Basic Turfgrass Culture | (3) |
| HORT 508 – Sustainable Land. Maint. Pract. | (2) |
| HORT 551 – The Bus. of Landscape Contracting | (1) |
| HORT 552 – Hort. Landscape Construction | (1) |
| HORT 585 – Arboriculture | (3) |
| HORT 587 Turfgrass Disease Mgt. | (1) |
| and | |
| HORT 588 Turfgrass Weed Mgt. | (1) |
| Or | |
| PLPTH 590 – Landscape Diseases | (2) |
| *Plus, select one of the following:* | |
| HORT 275 – Horticultural Design 1 | (3) |
| HORT 520 – Fruit Production | (3) |
| HORT 560 – Vegetable Crop Production | (3) |
| **Specialization Electives** | (10-12 hours) |
| *Select a minimum of 10 hours from:* | |
| AGRON 330 – Weed Science | (3) |
| AGRON 375 – Soil Fertility | (3) |
| HORT 210 – Concepts of Floral Design | (3) |
| HORT 301 – Horticulture Practicum | (1-3) |

| | |
|---|---|
| ~~HORT 325 – Intro. Organic Farming (2)~~ | HORT 377 – Interior Plantscaping (3) |
| HORT 405 – Water Issues/Lawn & Landscape (3) | HORT 390 – Horticulture Topics (1-3) |
| HORT 510 – Horticultural Design 2 (3) | HORT 405 – Water Issues/Lawn & Landscape (3) |
| ~~HORT 516 – Intensive Cult. Golf & Sports Turf (3)~~ | HORT 495 – Undergraduate Research in Hort. (3) |
| HORT 520 – Fruit Production (3) | HORT 510 – Horticultural Design 2 (3) |
| HORT 545 – Comp. Apps. Hort. Design (3) | HORT 520 – Fruit Production (3) |
| HORT 640 – Prb./~~Landscape Irrigation Design (2)~~ | HORT 545 – Comp. Apps. Hort. Design (3) |
| HORT 560 – Vegetable Crop Production (3) | HORT 640 – Horticulture Problems (0-3) |
| ~~HORT 570 – Greenhouse Ops. Management (3)~~ | HORT 560 – Vegetable Crop Production (3) |
| HORT 575 – Nursery Management (3) | HORT 575 – Nursery Management (3) |
| ~~HORT 587, 588, or 589 Pest Mgmt. Elective (2)~~ | HORT 595 - Horticulture Study Abroad (3) |
| ~~HORT 600 – Herbaceous Crop Production (3)~~ | HORT 625 – Floral Crop Production/Handling (2) |
| HORT 625 – Floral Crop Production/Handling (2) | HORT 706 Adv. Culture of Golf and Sports Turf (3) |
| HORT 706 – ~~Turfgrass Science~~ (3) | HORT 710 – Plant Cell, Tissue & Organ Cult. (3) |
| HORT 710 – Plant Cell, Tissue & Organ Cult. (3) | HORT 790 – Sustainable Agriculture (2) |
| HORT 790 – Sustainable Agriculture (2) | HORT 791 – Urban Agriculture (2) |
| HORT 791 – Urban Agriculture (2) | PLPTH 590 – Landscape Diseases (2) |
| PLPTH 590 – Landscape Diseases (2) | Surveying elective: |
| Surveying elective: | CE 212 – Elementary Surveying Engineering (3) |
| CE 212 – Elementary Surveying Engineering (3) | Or |
| or | ATM 558 – Hydrology & Soil Erosion Mgmt. (3) |
| ATM 558 – ~~Soil Erosion, Sediment & Poll. Contr~~. (3) | Any Biology or Agronomy course 300 or above (3) |
| **Free electives (~~0 5~~ credit hours)** | **Free electives (4 hours)** |
| **Total Credits for Graduation (~~126 credit hours~~)** | **Total Credits for Graduation (120 hours)** |

RATIONALE: This proposed curriculum change responds to the Kansas Board of Regents' mandate to reduce graduation requirements to 120 credit hours. The revision also aims to improve advising efficiency, enhance student accessibility to courses, strengthen the common core of Horticulture courses to advance our assessment program, and respond to staffing limitations.

IMPACT: These changes could potentially influence enrollment in Modern Languages courses, although not significantly because advisors will continue to recommend courses there. The Modern Languages department has been notified of the changes (see attached communication). Added email notification of Economics as requested by Faculty Senate Exec.

**Arts and Sciences**
**Biochemistry and Molecular Biophysics**

**Changes to the Biochemistry (B.A.)**

**Rationale: This is a non-expedited curriculum change.** Biochemistry and Molecular Biophysics (BMB) proposes to modify the Biochemistry BA, Medical Biochemistry track, degree plan that we currently offer, in two ways. First, we will increase the value of a required course BIOCH522 General Biochemistry Laboratory, from 2 to 3 credits (please see accompanying Appendix C). Secondly, we will reduce the number of required elective credits from 20 to 18, in order to comply with the KBOR mandate of 120 total scheduled credit hours for bachelor's degree completion. The BMB faculty approved these changes on Dec. 12, 2017.

**Impact (i.e. if this impacts another unit):** The proposed reduction in upper division elective credits from 20 to 18 may lead to small reductions in the enrollment of upper division classes in other departments/divisions/colleges.

http://catalog.k-state.edu/preview_program.php?catoid=40&poid=12942&returnto=6989

| FROM: | TO: |
|---|---|
| **Biochemistry (B.A.)**<br><br>Return to: Biochemistry and Molecular Biophysics<br><br>Biochemistry seeks 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.<br><br>**Bachelor's degree requirements**<br><br>**General requirements**<br><br>A total of ~~121~~ credit hours are required for graduation. The BA program is obtained by following the curriculum of the College of Arts and Sciences. | **Biochemistry (B.A.)**<br><br>Return to: Biochemistry and Molecular Biophysics<br><br>Biochemistry seeks 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.<br><br>**Bachelor's degree requirements**<br><br>**General requirements**<br><br>A total of 120 credit hours are required for graduation. The BA program is obtained by following the curriculum of the College of Arts and Sciences. |

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.

## Biochemistry Track

- BIOCH 110 - Biochemistry and Society **Credits:** 3
- BIOCH 521 - General Biochemistry **Credits:** 3
- BIOCH 522 - General Biochemistry Laboratory **Credits:** ~~2~~
- BIOCH 755 - Biochemistry I **Credits:** 3
- BIOCH 765 - Biochemistry II **Credits:** 3
- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 541 - Cell Biology **Credits:** 3
- BIOL 450 - Modern Genetics **Credits:** 4
- BIOL 455 - General Microbiology **Credits:** 4
- 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

- 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
- PHYS 114 - General Physics II **Credits:** 4
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3

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.

## Biochemistry Track

- 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
- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 541 - Cell Biology **Credits:** 3
- BIOL 450 - Modern Genetics **Credits:** 4
- BIOL 455 - General Microbiology **Credits:** 4
- 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
- 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
- PHYS 114 - General Physics II **Credits:** 4
- STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3

- *Any upper division elective credits in any College **Credits:** 20

## Medical Biochemistry Track

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A total of ~~121~~ credit hours are required for graduation. The BA program, Medical Track, is obtained by following the curriculum of the College of Arts and Sciences.

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.

- BIOCH 110 - Biochemistry and Society **Credits:** 3
- BIOCH 521 - General Biochemistry **Credits:** 3
- BIOCH 522 - General Biochemistry Laboratory **Credits:** ~~2~~
- BIOCH 571 - Medical Biochemistry **Credits:** 3
- # BIOCH 755 - Biochemistry I **Credits:** 3
- # BIOCH 799 - Problems in Biochemistry **Credits:** 1-18
- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 450 - Modern Genetics **Credits:** 4
- BIOL 455 - General Microbiology **Credits:** 4
- BIOL 541 - Cell Biology **Credits:** 3
- BIOL 670 - Immunology **Credits:** 4
- CHM 210 - Chemistry I **Credits:** 4
- CHM 230 - Chemistry II **Credits:** 4
- CHM 350 - General Organic Chemistry **Credits:** 3


- *Any upper division elective credits in any College **Credits:** 20

## Medical Biochemistry Track

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A total of 120 credit hours are required for graduation. The BA program, Medical Track, is obtained by following the curriculum of the College of Arts and Sciences.


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.

- 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 799 - Problems in Biochemistry **Credits:** 1-18
- BIOL 198 - Principles of Biology **Credits:** 4
- BIOL 450 - Modern Genetics **Credits:** 4
- BIOL 455 - General Microbiology **Credits:** 4
- BIOL 541 - Cell Biology **Credits:** 3
- BIOL 670 - Immunology **Credits:** 4
- 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
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- PHYS 113 - General Physics I **Credits:** 4
- PHYS 114 - General Physics II **Credits:** 4
- STAT 340 - Biometrics I **Credits:** 3
- # STAT 341 - Biometrics II **Credits:** 3
- *Any upper division (500 level or above) elective credits in any College **Credits:** ~~20~~

## The following classes are also acceptable as upper-division electives:

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- BIOL 410 - Biology of the Cancer Cell **Credits:** 2
- MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
- MATH 340 - Elementary Differential Equations **Credits:** 4
- & PHILO 365 - Medical Ethics **Credits:** 3
- PSYCH 470 - Psychobiology **Credits:** 3

## Notes

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*The courses above satisfy the mathematics and natural science requirements shown in the general requirements for the BS degree.

- Arts and Sciences requirements **Credits:** 32
- Level 4 Modern Language **Credits:** 4

& This class cannot both fill the Philosophy requirement of the College of Arts & Sciences,

- CHM 351 - General Organic Chemistry Laboratory **Credits:** 2
- CHM 371 - Chemical Analysis **Credits:** 4
- MATH 220 - Analytic Geometry and Calculus I **Credits:** 4
- PHYS 113 - General Physics I **Credits:** 4
- PHYS 114 - General Physics II **Credits:** 4
- STAT 340 - Biometrics I **Credits:** 3
- # STAT 341 - Biometrics II **Credits:** 3
- *Any upper division (500 level or above) elective credits in any College **Credits:** 18

## The following classes are also acceptable as upper-division electives:

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- BIOL 341 - Human Body **Credits: 3**
- BIOL 410 - Biology of the Cancer Cell **Credits:** 2
- MATH 222 - Analytic Geometry and Calculus III **Credits:** 4
- MATH 340 - Elementary Differential Equations **Credits:** 4
- & PHILO 365 - Medical Ethics **Credits:** 3
- PSYCH 470 - Psychobiology **Credits:** 3

## Notes

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*The courses above satisfy the mathematics and natural science requirements shown in the general requirements for the BS degree.

- Arts and Sciences requirements **Credits:** 32
- Level 4 Modern Language **Credits:** 4

& This class cannot both fill the Philosophy requirement of the College of Arts & Sciences,

| | |
|---|---|
| and also serve as an elective in the Medical Biochemistry BS degree plan.<br><br># The Medical Biochemistry BA plan requires one of the following three classes:<br><br>• BIOCH 755 - Biochemistry I<br>or<br>• BIOCH 799 - Biochemistry Research<br>or<br>• STAT 341 - Biometrics II<br><br>**Total credit hours required for graduation: (~~121~~)**<br><br>Return to: Biochemistry and Molecular Biophysics | and also serve as an elective in the Medical Biochemistry BS degree plan.<br><br># The Medical Biochemistry BA plan requires one of the following three classes:<br><br>• BIOCH 755 - Biochemistry I<br>or<br>• BIOCH 799 - Biochemistry Research<br>or<br>• STAT 341 - Biometrics II<br><br>**Total credit hours required for graduation: (120)**<br><br>Return to: Biochemistry and Molecular Biophysics |

**Changes to Biochemistry (B.S.)**

**Rationale: This is a non-expedited curriculum change.** Biochemistry and Molecular Biophysics (BMB) proposes to modify the Molecular Biophysics track, BS degree plan that we currently offer, in three ways. First, we will add another required course, BIOCH522 General Biochemistry Laboratory (3 credits). This laboratory trains students in basic biochemical and molecular biological skills, that are a necessary part of all BMB degree programs. This additional training will benefit the academic and career development of students in the Molecular Biophysics track BS degree plan. Second, we will delete the class PHYS325 Physics III, Relativity, Quantum Physics (4 credits). Third, we will reduce the elective class requirement from 6 credits to 3 credits. Overall, these changes will to reduce total scheduled credit hours for bachelor's degree completion to 120 credit hours, consistent with KBOR's recommendation/mandate. The BMB faculty approved these changes on Dec. 12, 2017.

**Impact (i.e. if this impacts another unit):**
The elimination of PHYS325 Physics III, Relativity and Quantum Physics as a requirement may slightly reduce overall enrollment in this class. However, BMB will still recommend the class as an elective for interested students. The proposed reduction in upper division elective credits from 6 to 3 may also lead to small reductions in enrollment for upper division classes in Chemistry, Biology, Statistics, Computer Science or Mathematics.

http://catalog.k-state.edu/preview_program.php?catoid=40&poid=12943&returnto=6989

| FROM: | TO: |
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| **Biochemistry (B.S.)**<br><br>Return to: Biochemistry and Molecular Biophysics<br>Biochemistry seeks 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.<br>**Bachelor's degree requirements**<br>General requirements for undergraduate major:<br>A total of ~~123~~ credit hours are required for graduation. The BS program, Medical Track, is obtained by following the curriculum of the College of Arts and Sciences.<br>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. | **Biochemistry (B.S.)**<br><br>Return to: Biochemistry and Molecular Biophysics<br>Biochemistry seeks 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.<br>**Bachelor's degree requirements**<br>General requirements for undergraduate major:<br>A total of 120 credit hours are required for graduation. The BS program, Medical Track, is obtained by following the curriculum of the College of Arts and Sciences.<br>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. |

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| • BIOCH 110 - Biochemistry and Society **Credits:** 3<br>• BIOCH 521 - General Biochemistry **Credits:** 3<br>• BIOCH 755 - Biochemistry I **Credits:** 3<br>• BIOCH 756 - Biochemistry I Laboratory **Credits:** 2<br>• BIOCH 765 - Biochemistry II **Credits:** 3<br>• BIOCH 775 - Molecular Biophysics **Credits:** 3<br>• BIOCH 799 - Problems in Biochemistry **Credits:** 1-18<br>• BIOL 198 - Principles of Biology **Credits:** 4<br>• BIOL 450 - Modern Genetics **Credits:** 4<br>• BIOL 455 - General Microbiology **Credits:** 4<br>• BIOL 541 - Cell Biology **Credits:** 3<br>• CHM 210 - Chemistry I **Credits:** 4<br>• CHM 230 - Chemistry II **Credits:** 4<br>• CHM 350 - General Organic Chemistry **Credits:** 3<br>• CHM 351 - General Organic Chemistry Laboratory **Credits:** 2<br>• CHM 371 - Chemical Analysis **Credits:** 4<br>• CHM 500 - General Physical Chemistry **Credits:** 3<br>• MATH 220 - Analytic Geometry and Calculus I **Credits:** 4<br>• MATH 221 - Analytic Geometry and Calculus II **Credits:** 4<br>• PHYS 113 - General Physics I **Credits:** 4 | • BIOCH 110 - Biochemistry and Society **Credits:** 3<br>• BIOCH 521 - General Biochemistry **Credits:** 3<br>• BIOCH 522 – General Biochemistry Lab **Credits: 3**<br>• BIOCH 755 - Biochemistry I **Credits:** 3<br>• BIOCH 756 - Biochemistry I Laboratory **Credits:** 2<br>• BIOCH 765 - Biochemistry II **Credits:** 3<br>• BIOCH 775 - Molecular Biophysics **Credits:** 3<br>• BIOCH 799 - Problems in Biochemistry **Credits:** 1-18<br>• BIOL 198 - Principles of Biology **Credits:** 4<br>• BIOL 450 - Modern Genetics **Credits:** 4<br>• BIOL 455 - General Microbiology **Credits:** 4<br>• BIOL 541 - Cell Biology **Credits:** 3<br>• CHM 210 - Chemistry I **Credits:** 4<br>• CHM 230 - Chemistry II **Credits:** 4<br>• CHM 350 - General Organic Chemistry **Credits:** 3<br>• CHM 351 - General Organic Chemistry Laboratory **Credits:** 2<br>• CHM 371 - Chemical Analysis **Credits:** 4<br>• CHM 500 - General Physical Chemistry **Credits:** 3<br>• MATH 220 - Analytic Geometry and Calculus I **Credits:** 4<br>• MATH 221 - Analytic Geometry and Calculus II **Credits:** 4<br>• PHYS 113 - General Physics I **Credits:** 4 |

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| • PHYS 114 - General Physics II **Credits:** 4<br>• STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3<br>• *Upper-division biochemistry, chemistry, biological science, statistics, computer science, analytical geometry and calculus III, or differential equations elective **Credits:** ~~16-18~~<br>• *Advanced Biochemistry Laboratories **Credits:** 2<br>(BIOCH 757, BIOCH 758, BIOCH 766, BIOCH 767) can be applied toward the requirement for BIOCH 799 - Problems in Biochemistry<br><br>***Laboratories**<br>Up to two credit hours of Advanced Biochemistry Laboratories can be applied towards the requirement for BIOCH 799-Problems in Biochemistry.<br>• BIOCH 757 - NMR Laboratory **Credits:** 1<br>• BIOCH 758 - Protein Structure Laboratory **Credits:** 1<br>• BIOCH 766 - Recombinant DNA Laboratory I **Credits:** 1<br>• BIOCH 767 - Recombinant DNA Laboratory II **Credits:** 1<br><br>**Note**<br>The courses in the list above satisfy the natural sciences and quantitative reasoning requirements shown in the general requirements for the BS degree.<br>**Arts and Sciences requirements (32 credit hours)**<br><br>**Biochemistry and Molecular Biophysics track**<br>• BIOCH 110 - Biochemistry and Society **Credits:** 3<br>• BIOCH 521 - General Biochemistry **Credits:** 3 | • PHYS 114 - General Physics II **Credits:** 4<br>• STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3<br>• *Upper-division biochemistry, chemistry, biological science, statistics, computer science, analytical geometry and calculus III, or differential equations elective **Credits:** 13<br>• *Advanced Biochemistry Laboratories **Credits:** 2<br>(BIOCH 757, BIOCH 758, BIOCH 766, BIOCH 767) can be applied toward the requirement for BIOCH 799 - Problems in Biochemistry<br><br>***Laboratories**<br>Up to two credit hours of Advanced Biochemistry Laboratories can be applied towards the requirement for BIOCH 799-Problems in Biochemistry.<br>• BIOCH 757 - NMR Laboratory **Credits:** 1<br>• BIOCH 758 - Protein Structure Laboratory **Credits:** 1<br>• BIOCH 766 - Recombinant DNA Laboratory I **Credits:** 1<br>• BIOCH 767 - Recombinant DNA Laboratory II **Credits:** 1<br><br>**Note**<br>The courses in the list above satisfy the natural sciences and quantitative reasoning requirements shown in the general requirements for the BS degree.<br>**Arts and Sciences requirements (32 credit hours)**<br><br>**Biochemistry and Molecular Biophysics track**<br>• BIOCH 110 - Biochemistry and Society **Credits:** 3<br>• BIOCH 521 - General Biochemistry **Credits:** 3<br>• BIOCH 522 – General Biochemistry Lab **Credits: 3** |

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| • BIOCH 755 - Biochemistry I **Credits:** 3<br>• BIOCH 756 - Biochemistry I Laboratory **Credits:** 2<br>• BIOCH 765 - Biochemistry II **Credits:** 3<br>• BIOCH 799 - Problems in Biochemistry **Credits:** ~~1 18~~<br>• BIOL 198 - Principles of Biology **Credits:** 4<br>• BIOL 450 - Modern Genetics **Credits:** 4<br>• BIOL 455 - General Microbiology **Credits:** 4<br>• BIOL 541 - Cell Biology **Credits:** 3<br>• CHM 210 - Chemistry I **Credits:** 4<br>• CHM 230 - Chemistry II **Credits:** 4<br>• CHM 350 - General Organic Chemistry **Credits:** 3<br>• CHM 351 - General Organic Chemistry Laboratory **Credits:** 2<br>• CHM 371 - Chemical Analysis **Credits:** 4<br>• CHM 500 - General Physical Chemistry **Credits:** 3<br>• MATH 220 - Analytic Geometry and Calculus I **Credits:** 4<br>• MATH 221 - Analytic Geometry and Calculus II **Credits:** 4<br>• MATH 222 - Analytic Geometry and Calculus III **Credits:** 4<br>• PHYS 213 - Engineering Physics I **Credits:** 5<br>• or<br>• PHYS 223 - Physics I, Mechanics, and Thermodynamics **Credits:** 5 | • BIOCH 755 - Biochemistry I **Credits:** 3<br>• BIOCH 756 - Biochemistry I Laboratory **Credits:** 2<br>• BIOCH 765 - Biochemistry II **Credits:** 3<br>• BIOCH 775 Molecular Biophysics **Credits:** 3<br>• BIOCH 799 - Problems in Biochemistry **Credits:** 1<br>• BIOL 198 - Principles of Biology **Credits:** 4<br>• BIOL 450 - Modern Genetics **Credits:** 4<br>• BIOL 455 - General Microbiology **Credits:** 4<br>• BIOL 541 - Cell Biology **Credits:** 3<br>• CHM 210 - Chemistry I **Credits:** 4<br>• CHM 230 - Chemistry II **Credits:** 4<br>• CHM 350 - General Organic Chemistry **Credits:** 3<br>• CHM 351 - General Organic Chemistry Laboratory **Credits:** 2<br>• CHM 371 - Chemical Analysis **Credits:** 4<br>• CHM 500 - General Physical Chemistry **Credits:** 3<br>• MATH 220 - Analytic Geometry and Calculus I **Credits:** 4<br>• MATH 221 - Analytic Geometry and Calculus II **Credits:** 4<br>• MATH 222 - Analytic Geometry and Calculus III **Credits:** 4<br>• PHYS 213 - Engineering Physics I **Credits:** 5<br>• or<br>• PHYS 223 - Physics I, Mechanics, and Thermodynamics **Credits:** 5 |

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| • PHYS 214 - Engineering Physics II **Credits:** 5<br>• or<br>• PHYS 224 - Physics II, Electromagnetism, and Sound **Credits:** 5<br>• ~~PHYS 325 - Physics III, Relativity, and Quantum Physics **Credits:** 4~~<br>• PHYS 664 - Thermodynamics and Statistical Physics **Credits:** 3<br>• or<br>• PHYS 775 - Biological Physics **Credits:** 3<br>• STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3<br>• *Upper-division electives **Credits:** ~~6~~ (biochemistry, chemistry, biological sciences, statistics, computer science, and mathematics)<br>**Medical Biochemistry Track**<br>• BIOCH 110 - Biochemistry and Society **Credits:** 3<br>• BIOCH 521 - General Biochemistry **Credits:** 3<br>• BIOCH 522 - General Biochemistry Laboratory **Credits:** ~~2~~<br>• BIOCH 571 - Medical Biochemistry **Credits:** 3<br>• # BIOCH 755 - Biochemistry I **Credits:** 3<br>• # BIOCH 765 - Biochemistry II **Credits:** 3<br>• BIOL 198 - Principles of Biology **Credits:** 4<br>• BIOL 450 - Modern Genetics **Credits:** 4<br>• BIOL 455 - General Microbiology **Credits:** 4<br>• BIOL 541 - Cell Biology **Credits:** 3<br>• BIOL 670 - Immunology **Credits:** 4 | • PHYS 214 - Engineering Physics II **Credits:** 5<br>• or<br>• PHYS 224 - Physics II, Electromagnetism, and Sound **Credits:** 5<br>• PHYS 664 - Thermodynamics and Statistical Physics **Credits:** 3<br>• or<br>• PHYS 775 - Biological Physics **Credits:** 3<br>• STAT 703 - Introduction to Statistical Methods for the Sciences **Credits:** 3<br>• *Upper-division electives **Credits:** 3 (biochemistry, chemistry, biological sciences, statistics, computer science, and mathematics)<br>**Medical Biochemistry Track**<br>• BIOCH 110 - Biochemistry and Society **Credits:** 3<br>• BIOCH 521 - General Biochemistry **Credits:** 3<br>• BIOCH 522 - General Biochemistry Laboratory **Credits:** 3<br>• BIOCH 571 - Medical Biochemistry **Credits:** 3<br>• # BIOCH 755 - Biochemistry I **Credits:** 3<br>• # BIOCH 765 - Biochemistry II **Credits:** 3<br>• BIOL 198 - Principles of Biology **Credits:** 4<br>• BIOL 450 - Modern Genetics **Credits:** 4<br>• BIOL 455 - General Microbiology **Credits:** 4<br>• BIOL 541 - Cell Biology **Credits:** 3<br>• BIOL 670 - Immunology **Credits:** 4 |

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| • CHM 210 - Chemistry I **Credits:** 4<br>• CHM 230 - Chemistry II **Credits:** 4<br>• CHM 350 - General Organic Chemistry **Credits:** 3<br>• CHM 351 - General Organic Chemistry Laboratory **Credits:** 2<br>• CHM 371 - Chemical Analysis **Credits:** 4<br>• MATH 220 - Analytic Geometry and Calculus I **Credits:** 4<br>• PHYS 113 - General Physics I **Credits:** 4<br>• PHYS 114 - General Physics II **Credits:** 4<br>• STAT 340 - Biometrics I **Credits:** 3<br>• STAT 341 - Biometrics II **Credits:** 3<br>**The following classes are also acceptable as upper-division electives:**<br>• BIOL 410 - Biology of the Cancer Cell **Credits:** 2<br>• MATH 222 - Analytic Geometry and Calculus III **Credits:** 4<br>• MATH 340 - Elementary Differential Equations **Credits:** 4<br>• & PHILO 365 - Medical Ethics **Credits:** 3<br>• PSYCH 470 - Psychobiology **Credits:** 3<br>**Notes**<br>• *Upper-division (500 level or above) biochemistry, chemistry, biology, math, statistics, or computer science **Credits:** ~~20~~<br>• *The courses above satisfy the mathematics and natural science requirements shown in the general requirements for the BS degree.<br>○ Arts & Sciences requirements **Credits:** 32 | • CHM 210 - Chemistry I **Credits:** 4<br>• CHM 230 - Chemistry II **Credits:** 4<br>• CHM 350 - General Organic Chemistry **Credits:** 3<br>• CHM 351 - General Organic Chemistry Laboratory **Credits:** 2<br>• CHM 371 - Chemical Analysis **Credits:** 4<br>• MATH 220 - Analytic Geometry and Calculus I **Credits:** 4<br>• PHYS 113 - General Physics I **Credits:** 4<br>• PHYS 114 - General Physics II **Credits:** 4<br>• STAT 340 - Biometrics I **Credits:** 3<br>• STAT 341 - Biometrics II **Credits:** 3<br>**The following classes are also acceptable as upper-division electives:**<br>• BIOL 341 Human Body **Credits: 3**<br>• BIOL 410 - Biology of the Cancer Cell **Credits:** 2<br>• MATH 222 - Analytic Geometry and Calculus III **Credits:** 4<br>• MATH 340 - Elementary Differential Equations **Credits:** 4<br>• & PHILO 365 - Medical Ethics **Credits:** 3<br>• PSYCH 470 - Psychobiology **Credits:** 3<br>**Notes**<br>• *Upper-division (500 level or above) biochemistry, chemistry, biology, math, statistics, or computer science **Credits:** 16<br>• *The courses above satisfy the mathematics and natural science requirements shown in the general requirements for the BS degree.<br>○ Arts & Sciences requirements **Credits:** 32 |

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| • [&]This class cannot both fill the Philosophy requirement of the College of Arts & Sciences, and also serve as an elective in the Medical Biochemistry BS degree plan.<br>• [#]Students may take any 700- or higher-level 3 credit BMB classes as alternatives to BIOCH 755 and BIOCH 765.<br>**Total credit hours required for graduation: (~~123~~)**<br>⇦Return to: Biochemistry and Molecular Biophysics | • [&]This class cannot both fill the Philosophy requirement of the College of Arts & Sciences, and also serve as an elective in the Medical Biochemistry BS degree plan.<br>• [#]Students may take any 700- or higher-level 3 credit BMB classes as alternatives to BIOCH 755 and BIOCH 765.<br>**Total credit hours required for graduation: (120)**<br>⇦Return to: Biochemistry and Molecular Biophysics |

**Arts and Sciences**

# Concurrent B.A./B.S. in Sociology (or Criminology) and Masters of Sociology

Students who successfully complete this program will receive a BA or BS in Sociology or Criminology and a Masters of Sociology with an emphasis in General Sociology; Criminology; Community, Agriculture, Food and Environment; or Social Inequalities. The degree can be completed in a minimum of five academic years.

## Admissions Requirements

Applicants are encouraged to apply to the program during their junior year and must meet the following requirements:
. The student must be currently seeking a B.A. or B.S. degree in one of the concentrations of the Sociology program.
. The student must have completed a minimum of 90 credit hours before being formally admitted to the M.A. program and beginning graduate coursework.
. The student must have completed STAT 325, SOCIO 423 and SOCIO 431 and a minimum of six additional credit hours in Sociology or Criminology.
. The student must have earned a GPA of 3.5 in the major and 3.0 overall.

## Application Process

Students should apply to the program during their junior year. Applications should include the following:
. A completed on-line application to the K-State Graduate School with paid application fee.
. A statement of objectives indicating professional goals relative to the M.A. degree
. Three letters of recommendation; at least two of them must be from KSU Sociology faculty who are familiar with the student's ability.
. Official transcript(s) of all undergraduate course work completed at the time of application
. A sample of written work (e.g. research paper, essay).
. The Graduate Record Exam (GRE) must be taken before starting graduate coursework. Students applying without having taken the GRE may be admitted on a probationary basis. They will then be considered for regular status after taking the GRE.
Applications are evaluated by the Graduate Admissions Committee, which will provide a recommendation to the Director of Graduate Studies about an applicant's suitability for the program.

**Program Guidelines**

. The bachelor's degree normally requires 120 undergraduate credit hours and the M.A. degree 30 graduate credit hours. However, the program allows a maximum of 9 credit hours of graduate courses to be counted toward both the undergraduate and graduate degrees.

. Students may begin taking graduate courses during their 4th year of the program.
. Graduate courses must be completed with a minimum GPA of 3.0.
. The bachelor's degree may be awarded at any time following the completion of the undergraduate degree requirements. Alternatively, the B.A./B.S. degree and the M.A. may be awarded concurrently following the completion of the M.A. degree.
. Students must choose one of four options in the M.A. program – Sociology, Sociology-CAFÉ, Sociology-Social Inequalities, Criminology.

**M.A. in Sociology**
Students pursuing the M.A. in Sociology are required to complete 12 hours of "core" courses.

**Core Courses** (12 credit hours)

- SOCIO 809 Classical Theory
- SOCIO 810 Contemporary Theory
- SOCIO 822 Introduction to Methods of Social Analysis
- SOCIO 823 Intermediate Methods of Social Research

**Elective Courses** (12 credit hours)

In addition, students must complete a minimum of 12 hours of elective graduate courses in Sociology. These courses can be in any area of the graduate program.

**Thesis/Exam/Report** (6 credit hours)

The remaining 6 hours required to finish the degree must be completed with one of the following options:

- Take 6 hours of SOCIO 899 Master's Thesis Research and successfully complete a Master's Thesis on a research topic related to Sociology.
- Complete 6 additional hours of elective graduate courses in Sociology and successfully pass the M.A. Comprehensive Examination.
- Complete 3 additional hours of elective graduate courses in Sociology, take 3 hours of SOCIO 898 Master's Report Research and successfully complete a Master's Research Report on a topic related to Sociology.

**M.A. in Sociology – Criminology concentration**

Students pursuing the M.A. in Sociology with a concentration in Criminology are required to complete 12 hours of "core" courses.

**Core Courses** (12 credit hours)

- SOCIO 809 Classical Theory or SOCIO 810 Contemporary Theory
- SOCIO 822 Introduction to Methods of Social Analysis
- SOCIO 823 Intermediate Methods of Social Research
- SOCIO 862 Criminological Theory

**Elective Courses** (12 credit hours)

In addition, students pursuing the Criminology concentration must complete a minimum of 12 hours of elective graduate courses. A minimum of 9 of these credit hours must be in Criminology courses.

**Thesis/Exam/Report** (6 credit hours)

The remaining 6 hours required to finish the degree must be completed with one of the following options:

- Take 6 hours of SOCIO 899 Master's Thesis Research and successfully complete a Master's Thesis on a research topic related to Criminology.
- Complete 6 additional hours of elective graduate courses in Sociology and successfully pass the M.A. Comprehensive Examination.
- Complete 3 additional hours of elective graduate courses in Criminology or Sociology, take 3 hours of SOCIO 898 Master's Report Research and successfully complete a Master's Research Report on a topic related to Criminology.

**M.A. in Sociology - Community, Agriculture, Food, and Environment Concentration**

Students pursuing the M.A. in Sociology with a concentration in Community, Agriculture, Food, and Environment (CAFÉ) are required to complete 12 hours of "core" courses.

**Core Courses** (9 credit hours)

- SOCIO 809 Classical Theory or SOCIO 810 Contemporary Theory
- SOCIO 822 Introduction to Methods of Social Analysis
- SOCIO 823 Intermediate Methods of Social Research

**CAFÉ Elective Courses** (9 credit hours)

In addition, students must complete a minimum of 9 hours of elective graduate courses from below:

- SOCIO 830: Social Demography
- SOCIO 831: Sociology of Agriculture
- SOCIO 832: Sociology of Community
- SOCIO 835: Environment and Society
- SOCIO 851: Sociology of Development

**Thesis/Exam/Report** (6 credit hours)

The remaining 6 hours required to finish the degree must be completed with one of the following options:

- Take 6 hours of SOCIO 899 Master's Thesis Research and successfully complete a Master's Thesis on a research topic related to Sociology.
- Complete 6 additional hours of elective graduate courses in Sociology and successfully pass the M.A. Comprehensive Examination.
- Complete 3 additional hours of elective graduate courses in Sociology, take 3 hours of SOCIO 898 Master's Report Research and successfully complete a Master's Research Report on a topic related to Sociology-CAFÉ.

**M.A. in Sociology - Social Inequalities Concentration**

Students pursuing the M.A. in Sociology with a concentration in Social Inequalities are required to complete 12 hours of "core" courses.

**Core Courses** (9 credit hours)

- SOCIO 809 Classical Theory or SOCIO 810 Contemporary Theory
- SOCIO 822 Introduction to Methods of Social Analysis
- SOCIO 823 Intermediate Methods of Social Research

**Social Inequalities Elective Courses** (9 credit hours)

In addition, students must complete a minimum of 9 hours of elective graduate courses from below:

- SOCIO 830: Social Demography
- SOCIO 833: Gender Differentiation and Inequality
- SOCIO 933: Gender and Society
- SOCIO 841: Social Stratification

**Thesis/Exam/Report** (6 credit hours)

The remaining 6 hours required to finish the degree must be completed with one of the following options:

- Take 6 hours of SOCIO 899 Master's Thesis Research and successfully complete a Master's Thesis on a research topic related to Sociology.
- Complete 6 additional hours of elective graduate courses in Sociology and successfully pass the M.A. Comprehensive Examination.
- Complete 3 additional hours of elective graduate courses in Sociology, take 3 hours of SOCIO 898 Master's Report Research and successfully complete a Master's Research Report on a topic related to Sociology-Social Inequalities.

**Rationale:**

This proposal: (1) provides a plan to complete the B.S./B.A and M.A. concurrently in five years; and (2) adds three options (concentrations) in "Community, Agriculture, Food, and Environment (CAFÉ)," "Social Inequalities," and "Criminology."

At the Bachelor's level (B.S./B.A.) the curriculum currently includes a General Sociology option and a Criminology option. At the Master's level, the curriculum currently includes a thesis option, a non-thesis option, and a M.A. in Social Analysis option. Currently, the Bachelor's plan is designed to be completed in four years and the Master's is designed to be completed in two years.

These proposed changes would provide more choices for our undergraduate majors and graduate students to specialize in particular areas of sociology that fit with existing strengths in the department and strengthen the marketability of our students.

**Impact (i.e. if this impacts another unit) – Statement should include the date when the head of a unit was contacted, and the response or lack of:** No impacts on other units are expected from these changes.

**Arts and Sciences**
**Journalism and Mass Communications**
**Mass Communications B.A./B.S.**

**Rationale:** The A.Q. Miller School faculty has been working for the past three years to revise and update our overall curriculum, an action that is necessary in today's dynamic media market and imperative for a nationally accredited journalism and mass communications program. This form represents actions that 1) modernize our admissions procedures, 2) update the School's overall core curriculum (which includes a 9-hour introductory core for pre-JMC majors as well as a new 24-hour core curricula for Journalism and Strategic Communications), and 3) the merger of the current Advertising and Public Relations sequences into a combined Strategic Communications option. The actions represented here would go into effect for the Fall 2018 semester.

**Impact (i.e. if this impacts another unit) – Statement should include the date when the head of a unit was contacted, and the response or lack of:** This action will affect our constituent departments: Agricultural Communications and Journalism, Animal Science Communications and Marketing and the College of Education's Secondary Journalism and English programs. Included as an addendum are e-mails from Dr. Jason Ellis, the interim head of ACJ, and Dr. Todd Goodsen, Curriculum and Instruction head for the College of Education. We have verbal acceptance of these changes from David Nichols of the Animal Science Communications and Marketing program, who met with us on February 15, 2017.

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| The study of mass communications provides students with the tools to function effectively in an information-intensive society, whether as creators or as consumers of information or strategic communication.<br><br>Students follow a general course of study in the College of Arts and Sciences, a specialized professional curriculum in the A.Q. Miller School of Journalism and Mass Communications, and a focused selection of courses in an outside discipline.<br><br>The ~~public relations and advertising sequences focus~~ on preparing students for entry-level positions in the growing field of strategic communications, which assists and advises organizations in managing their communications. Corporations, non-profit organizations, different levels of government and military, and public relations and advertising agencies all rely on educated communicators with public relations and advertising knowledge and skills. As a capstone experience to public relations and advertising classes that teach students the knowledge and skills to qualify for these careers, students complete a professional internship that gives them practical experience in the type of public relations or advertising they are interested in. Students are encouraged to take advantage of opportunities offered by our professional organizations, including the pre-professional K-State Public Relations Student Society of America (PRSSA) chapter and the Ad Club, a collegiate chapter of the American Advertising Federation. These organizations are eager to engage and mentor students through networking with professionals, attending professional meetings and seminars and participating in community Projects.<br><br>Journalism students gain practical experience through hands-on training at some of the nation's finest student media organizations. Campus media venues include the **Kansas State Collegian**, the daily campus news source published online, through an app, and in print; and the **Royal Purple** yearbook. The A.Q. Miller | The study of mass communications provides students with the tools to function effectively in an information-intensive society, whether as creators or as consumers of information or strategic communication.<br><br>Students follow a general course of study in the College of Arts and Sciences, a specialized professional curriculum in the A.Q. Miller School of Journalism and Mass Communications, and a focused selection of courses in an outside discipline.<br><br>The <u>strategic communications sequence</u> focuses on preparing students for entry-level positions in the growing field of strategic communications, which assists and advises organizations in managing their communications. Corporations, non-profit organizations, different levels of government and military, and public relations and advertising agencies all rely on educated communicators with public relations and advertising knowledge and skills. As a capstone experience to public relations and advertising classes that teach students the knowledge and skills to qualify for these careers, students complete a professional internship that gives them practical experience in the type of public relations or advertising they are interested in. Students are encouraged to take advantage of opportunities offered by our professional organizations, including the pre-professional K-State Public Relations Student Society of America (PRSSA) chapter and the Ad Club, a collegiate chapter of the American Advertising Federation. These organizations are eager to engage and mentor students through networking with professionals, attending professional meetings and seminars and participating in community Projects.<br><br>Journalism students gain practical experience through hands-on training at some of the nation's finest student media organizations. Campus media venues include the ***Kansas State Collegian***, the daily campus news source published online, through an app, and in print; and the ***Royal Purple*** yearbook. The A.Q. Miller School operates radio station KSDB-FM, which programs news, |

School operates radio station KSDB-FM, which programs news, sports and music, along with podcasting, streaming audio and Internet content; and KSU's local high definition television station, KKSU-TV, where students produce a community newscast, ~~Channel 8 News~~, and ~~MHK All-Day,~~ a weekly student-staffed news broadcast, which is also streamed live over the Internet. The JMC NewsDesk provides student with practical experience in managing a news assignment desk and developing content for distribution on multiple media platforms.

## Mass Communications B.A./B.S.

Return to: Journalism and Mass Communications

### Becoming a major

~~To become a major, a student must have a 2.5 GPA based on at least 30 credit hours at the 100-level or higher. **MC 110** with a grade of C or higher must be completed. Students must pass the School's Composition Skills Tests (CST) prior to applying to be a major. Students who initially fail the CST may retake the exam up to two additional times during regularly scheduled examination periods.~~

~~Transfer students must have completed at least 30 credit hours at the 100-level or higher with a minimum 2.5 GPA are eligible to apply for admission to the School during their first semester upon successful completion of the CST and upon completion of a transfer course equivalent to **MC 110** with a grade of C or better.~~

~~Students with a minimum 2.5 GPA transferring fewer than 30 credit hours to K-State must complete enough K-State credit hours at the 100-level or above to total 30 credit hours, and they must achieve a minimum 2.5 GPA on K-State~~

sports and music, along with podcasting, streaming audio and Internet content; and KSU's local high definition television station, KKSU-TV, where students produce a community newscast, "Channel 8 News," and "MHK All-Day," a weekly student-staffed news broadcast, which is also streamed live over the Internet. The JMC NewsDesk provides student with practical experience in managing a news assignment desk and developing content for distribution on multiple media platforms.

## Mass Communications B.A./B.S.

Return to: Journalism and Mass Communications

### Becoming a major

Becoming a major a student must successfully pass the nine-hour JMC Gateway, which includes the three, one-hour JMC Writing Academy courses (MC 130 Media Writing Conventions and Mechanics, MC 131 Media Writing Styles and Platforms and MC 132 Media Writing Perspectives); MC 110 Mass Communication in Society (3 hours); and three of the six one-hour Foundational Skills modules (MC 191 Audio Production Foundations, MC 192 Pixel Foundations, MC 193 Video Foundations, MC 194 Social Media Foundations, MC 195 Vector Foundations and MC 196 Web-CMS Foundations). Students must earn C or better in the JMC Gateway classes.

Transfer students are eligible to apply for admission to the School during their first semester upon successful completion of the JMC Gateway courses with a C or better.

Admission to the major will be granted when the above prerequisites have been met. To apply, a

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| ~~coursework in order to be considered for admission. A passing CST score is required, and **MC 110** (or its transferable equivalent) must be completed with a grade of C or better.~~<br><br>~~Students with a transfer GPA below 2.5 GPA who bring in 30 or more credit hours must earn a 2.5 GPA on at least 15 credit hours above the 100 level at K-State. **MC 110** (or its transferable equivalent) must be completed with a grade of C or better, and the CST must be completed with a passing score in order to be considered for admission.~~<br><br>~~Students without the requisite 2.5 GPA, and who have fewer than 30 transfer credit hours, must complete 30 K-State credit hours and achieve a 2.5 GPA, pass the CST, and receive credit for **MC 110** or an equivalent class with a grade of C or better in order to be considered for admission.~~<br><br>~~Admission to the major will be based on academic achievement, writing, skills, and promise for success in the major. To apply, a student must submit an application packet to the school by September 15 or February 15. The application forms may be obtained from the School's website. Students who are not admitted after a second application should meet with the pre-major advisor to discuss academic options.~~<br><br>~~While awaiting eligibility to become a major, all freshman and new transfer students from other institutions are eligible to be pre-majors and enroll in Mass Communication in Society (**MC 110**), which is the required first course in the major. Other courses open to pre-majors include: Journalism in a Free Society (**MC 111**), Web Communication in Society (**MC 112**), Principles of Advertising (**MC 120**), Fundamentals of Public Relations (**MC 180**), and Visual Communication in Mass Media (**MC 210**). Enrollment is restricted in other courses in the major.~~<br><br>~~Students may take restricted courses and advanced courses ***only*** if they meet the prerequisites. Students who expect to fulfill one or~~ | student must submit an application to declare their sequence and outside concentration. The application forms may be obtained from the School's website.<br><br>Students may take restricted courses and advanced courses ***only*** if they meet the prerequisites. Students who expect to fulfill one or more prerequisites in a current semester may provisionally enroll on the expectation they will be eligible to take the course the following semester.<br><br>Majors are expected to establish and maintain a minimum 2.5 GPA on all JMC courses applied to the major to graduate. |

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| ~~more prerequisites in a current semester may provisionally enroll on the expectation they will be eligible to take the course the following semester.~~<br><br>**Mass Communications major and outside specialty area**<br><br>Requirements for a mass communications major consist of ~~39~~ credit hours in the School of Journalism and Mass Communications. No more than 6 credit hours from the following classes may be counted as electives within the 39 credit hours required in the major: **MC ~~111, 112,~~ 120, 180, ~~or 210~~**. National accreditation standards require all mass communication graduates to complete at least 72 credit hours of course work outside the school.<br><br>A student must fulfill the general requirements of the College of Arts and Sciences for either the BA or the BS degree.<br><br>To graduate, a student must achieve a 2.5 GPA in courses within the school. In addition, K-State requires a cumulative 2.0 GPA in all course work (a C average) to graduate.<br><br>A curriculum guide for majors and pre-majors is available in the school office and on the website for the School of Journalism and Mass Communications.<br><br>Students in the A.Q. Miller School of Journalism and Mass Communications must complete the requirements of one of the school's options in ~~journalism and digital media, advertising, and public relations.~~<br><br>Beyond this, students are also required to develop an area of expertise outside of journalism and mass communications, which entails taking a minimum of 15 credit hours in another department on campus. Students can meet this requirement by completing one of the following plans: | **Mass Communications major and outside specialty area**<br><br>Requirements for a mass communications major consist of a minimum of 45 credit hours in the School of Journalism and Mass Communications. No more than 6 credit hours from the following classes may be counted as electives within the 45 credit hours required in the major: **MC 120, 160 or 180.** National accreditation standards require all mass communication graduates to complete at least 72 credit hours of course work outside the school.<br><br>A student must fulfill the general requirements of the College of Arts and Sciences for either the BA or the BS degree.<br><br>To graduate, a student must achieve a 2.5 GPA in courses applied to the major within the school. In addition, K-State requires a cumulative 2.0 GPA in all course work (a C average) to graduate.<br><br>A curriculum guide for majors and pre-majors is available in the school office and on the website for the School of Journalism and Mass Communications.<br><br>Students in the A.Q. Miller School of Journalism and Mass Communications must complete the requirements of one of the school's options in journalism or strategic communications.<br><br>Beyond this, students are also required to develop an area of expertise outside of journalism and mass communications, which entails taking a minimum of 15 credit hours in another department on campus. Students can meet this requirement by completing one of the following plans: |

## *Outside concentration*

*Option 1*
A minimum of 15 credit hours of course work taken in another department or academic program will satisfy the outside concentration requirement. At least two of the courses must be advanced courses (numbered at the 500-level or higher) or classes with a prerequisite in the same department or program.

Up to two courses used to fulfill general College of Arts and Sciences requirements, but not ENGL 100, ENGL 110, ENGL 125, ENGL 200, COMM 105, or COMM 106, may be counted toward completion of the outside concentration.

*Option 2*
A minimum of 15 credit hours of related course work from two or more departments or academic programs will satisfy the outside concentration requirement. Students choosing a "custom" outside concentration such as this must have their course work plan approved by their faculty advisor in JMC. At least two of the courses must be advanced courses (numbered at the 500-level or higher) or classes with a prerequisite in the same department or program. Custom concentrations will be reviewed by the associate director for undergraduate studies. If the associate director has doubts about the appropriateness of approval, the question will be taken to the school's curriculum committee.

Up to two courses used to fulfill general College of Arts and Sciences requirements, but not ENGL 100, ENGL 110, ENGL 125, ENGL 200, COMM 105, or COMM 106, may be counted toward completion of the outside concentration.

## Other ways to develop the outside concentration requirement

*Complete a minor*
Students who declare a minor entirely within a

## *Outside concentration*

***Option 1***
A minimum of 15 credit hours of course work taken in another department or academic program will satisfy the outside concentration requirement. At least two of the courses must be advanced courses (numbered at the 500-level or higher) or classes with a prerequisite in the same department or program.

Up to two courses used to fulfill general College of Arts and Sciences requirements, but not ENGL 100, ENGL 110, ENGL 125, ENGL 200, COMM 105, COMM 106, or COMM 109 may be counted toward completion of the outside concentration.

***Option 2***
A minimum of 15 credit hours of related course work from two or more departments or academic programs will satisfy the outside concentration requirement. Students choosing a "custom" outside concentration such as this must have their course work plan approved by their faculty advisor in JMC. At least two of the courses must be advanced courses (numbered at the 500-level or higher) or classes with a prerequisite in the same department or program. Custom concentrations will be reviewed by the associate director for undergraduate studies. If the associate director has doubts about the appropriateness of approval, the question will be taken to the school's curriculum committee.

Up to two courses may be used to fulfill general College of Arts and Sciences requirements, but not ENGL 100, ENGL 110, ENGL 125, ENGL 200, COMM 105, COMM 106, or COMM 109 may be counted toward completion of the outside concentration.

## Other ways to develop the outside concentration requirement

***Complete a minor***
Students who declare a minor entirely within a

single department or academic program are expected to complete the academic requirements of the minor. Students who declare an interdisciplinary minor are expected to compete the academic requirements of the minor. Completion of a minor satisfies the outside concentration requirement.

*Complete a secondary major*
Students who declare and complete a secondary major–a major that is interdisciplinary and not within a single department–automatically satisfy the outside concentration.

*Complete a "dual" major*
Students who declare and complete a second or "dual" major in another department or academic program automatically satisfy the outside concentration.

## Credit through quiz-out

Any student may apply to test out of professional practice courses in journalism and mass communications by presenting to the appropriate sequence head a portfolio, tapes, or other suitable evidence of performance that would allow assessment of course-related experience. After review of the material, the sequence head may refer the application to the appropriate instructor who will determine the number of credit hours, if any, and the method of examination or evaluation to be employed to determine whether credit shall be given. Such credit shall be granted on a Credit/No Credit basis. No more than 12 semester credit hours may be earned through quiz-out and at least 24 of the student's journalism credit hours must be K-State resident hours.

## Transfer course work

Students may transfer a maximum of 12 semester credit hours in the major. Courses in journalism

single department or academic program are expected to complete the academic requirements of the minor. Students who declare an interdisciplinary minor are expected to compete the academic requirements of the minor. Completion of a minor satisfies the outside concentration requirement.

*Complete a secondary major*
Students who declare and complete a secondary major–a major that is interdisciplinary and not within a single department–automatically satisfy the outside concentration.

*Complete a "dual" major*
Students who declare and complete a second or "dual" major in another department or academic program automatically satisfy the outside concentration.

## Credit through quiz-out

Any student may apply to test out of professional practice courses in journalism and mass communications by presenting to the appropriate sequence head a portfolio, tapes, or other suitable evidence of performance that would allow assessment of course-related experience. After review of the material, the sequence head may refer the application to the appropriate instructor who will determine the number of credit hours, if any, and the method of examination or evaluation to be employed to determine whether credit shall be given. Such credit shall be granted on a Credit/No Credit basis. No more than 12 semester credit hours may be earned through quiz-out and at least 24 of the student's journalism credit hours must be K-State resident hours.

## Transfer course work

Students may transfer a maximum of 12 semester credit hours in the major. Courses in journalism

and mass communications above the 12-hour maximum will not be accepted as electives outside the major and will not be accepted as part of the graduation requirement. No journalism and mass communications course will transfer to K-State without a grade of C or better.

When transfer students present an accumulation of credits in courses that consist of laboratory work, the school may accept a maximum of 3 credit hours for all such work, equivalent to courses such as Media Practicum.

## ~~Journalism and Digital Media~~

### ~~*Print Focus (39-45 credit hours)*~~

- ~~Electives (at least 3 hours at 500-level or above) **Credits:** 6-12~~
- ~~MC 110 - Mass Communication in Society **Credits:** 3~~
- ~~MC 200 - News and Feature Writing **Credits:** 3~~
- ~~MC 241 - Editing **Credits:** 3~~
- ~~MC 251 - Digital News **Credits:** 3~~
- ~~MC 303 - Advanced News Writing **Credits:** 3~~
- ~~MC 316 - Computer-Assisted Reporting **Credits:** 3~~
- ~~MC 385 - Media Practicum **Credits:** 1~~
- ~~MC 416 - Photojournalism **Credits:** 3~~
- ~~or~~
- ~~MC 426 - Magazine and Feature Writing **Credits:** 3~~
- ~~MC 466 - Law of Mass Communications **Credits:** 3~~
- ~~MC 491 - Mass Communication Internship **Credits:** 1-3~~
- ~~MC 580 - Convergence Reporting **Credits:** 3~~

and mass communications above the 12-hour maximum will not be accepted as electives outside the major and will not be accepted as part of the graduation requirement. No journalism and mass communications course will transfer to K-State without a grade of C or better.

When transfer students present an accumulation of credits in courses that consist of laboratory work, the school may accept a maximum of 3 credit hours for all such work, equivalent to courses such as MC 385 Media Practicum.

## Pre-major core

### *JMC Gateway (9 hours)*

MC 130 Media Writing Conventions and Mechanics
**Credits: 1**

MC 131 Media Writing Styles and Platforms
**Credits: 1**

MC 132 Media Writing Perspectives
**Credits: 1**
MC 110 Mass Communication in Society
**Credits: 3**

**Select three of the following (3 hours):**

MC 191 Audio Production Foundations
**Credits: 1**

MC 192 Pixel Foundations
**Credits: 1**

MC 193 Video Production Foundations
**Credits: 1**

MC 194 Social Media Foundations
**Credits: 1**

MC 195 Vector Foundation
**Credits: 1**

MC 196 Web-CMS Foundations
**Credits: 1**

~~Select one of the following:~~

- ~~MC 564 - History of Mass Communication~~ **~~Credits:~~** ~~3~~
- ~~MC 572 - Global Mass Communication~~ **~~Credits:~~** ~~3~~
- ~~MC 573 - Ethics in Mass Communication~~ **~~Credits:~~** ~~3~~
- ~~MC 612 - Gender Issues and the Media~~ **~~Credits:~~** ~~3~~
- ~~MC 585 - Media Management~~ **~~Credits:~~** ~~3~~

~~*Electronic Focus (39-45 credit hours)*~~

- ~~Electives (at least 3 hours at 500-level or above)~~ **~~Credits:~~** ~~9-15~~
- ~~MC 110 - Mass Communication in Society~~ **~~Credits:~~** ~~3~~
- ~~MC 200 - News and Feature Writing~~ **~~Credits:~~** ~~3~~
- ~~MC 251 - Digital News~~ **~~Credits:~~** ~~3~~
- ~~MC 316 - Computer-Assisted Reporting~~ **~~Credits:~~** ~~3~~
- ~~MC 385 - Media Practicum~~ **~~Credits:~~** ~~1~~
- ~~MC 406 - Advanced Digital News~~ **~~Credits:~~** ~~3~~
- ~~MC 408 - Producing Digital News~~ **~~Credits:~~** ~~3~~
- ~~or~~
- ~~MC 471 - Audio and Video Production~~ **~~Credits:~~** ~~3~~
- ~~MC 466 - Law of Mass Communications~~ **~~Credits:~~** ~~3~~
- ~~MC 491 - Mass Communication Internship~~ **~~Credits:~~** ~~1-3~~
- ~~MC 580 - Convergence Reporting~~ **~~Credits:~~** ~~3~~

~~Select one of the following:~~

## Plans of study

### *Journalism Core (21 hours)*

MC 160 Principles of Journalism
**Credits: 3**

MC 200 News Reporting and Writing Across Platforms
**Credits: 3**

MC 301 Intro to Media Production
**Credits: 3**

MC 316 Data Journalism
**Credits: 3**

MC 341 Media Design and Data Visualization
**Credits: 3**

*MC 385 Media Practicum
**Credits: 1-3**

MC 466 Law of Mass Communication
**Credits: 3**

*MC 491 Mass Communications Internship
**Credits: 1-3**

MC 580 Storytelling Across Platforms
**Credits: 3**

(*) Journalism students must take a minimum of one hour of MC 385 Media Practicum and one hour of MC 491 Mass Communications Internship. Beyond that, the combination of hours in the two classes may not exceed three hours, meaning that a student can earn credit for completing an additional hour of either MC 385 or MC 491.

Electives (at least 6 hours at 500 level or above)
**Credits: 12**

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| • ~~MC 564 - History of Mass Communication **Credits:** 3~~<br>• ~~MC 572 - Global Mass Communication **Credits:** 3~~<br>• ~~MC 573 - Ethics in Mass Communication **Credits:** 3~~<br>• ~~MC 585 - Media Management **Credits:** 3~~<br>• ~~MC 612 - Gender Issues and the Media **Credits:** 3~~<br><br>***~~Advertising (39-45 credit hours)~~***<br><br>• ~~Electives (at least 3 hours at 500-level or above) **Credits:** 12-18~~<br>• ~~MC 110 - Mass Communication in Society **Credits:** 3~~<br>• ~~MC 120 - Principles of Advertising **Credits:** 3~~<br>• ~~MC 221 - Advertising Strategy & Writing **Credits:** 3~~<br>• ~~MC 396 - Strategic Communication Research **Credits:** 3~~<br>• ~~MC 446 - Advertising Media Planning **Credits:** 3~~<br>• ~~MC 466 - Law of Mass Communications **Credits:** 3~~<br>• ~~MC 480 - Advertising and Public Relations Design and Production **Credits:** 3~~<br>• ~~MC 640 - Advertising Campaigns **Credits:** 3~~<br><br>~~**Select one of the following:**~~<br><br>• ~~MC 557 - Advertising Portfolio **Credits:** 3~~<br>• ~~MC 623 - Global Advertising **Credits:** 3~~<br>• ~~MC 665 - Managing Integrated Strategic Communications **Credits:** 3~~ | ***Strategic Communications Core (21 hours)***<br><br>MC 120 Principles of Advertising<br>**OR** MC 180 Principles of Public Relations<br>**Credits: 3**<br><br>MC 221 Advertising and Writing Strategy<br>OR<br>MC 280 Public Relations Writing<br>**Credits: 3**<br><br>MC 341 Media Design and Data Visualization<br>**Credits: 3**<br><br>MC 396 Strategic Communications Research<br>**Credits: 3** |

~~*Public Relations (39-45 credit hours)*~~

- ~~Electives any MC course or courses **Credits:** 9-11~~
- ~~MC 110 - Mass Communication in Society **Credits:** 3~~
- ~~MC 180 - Fundamentals of Public Relations **Credits:** 3~~
- ~~MC 200 - News and Feature Writing **Credits:** 3~~
- ~~MC 280 - Public Relations Writing **Credits:** 3~~
- ~~MC 380 - Public Relations Research, Strategy and Planning **Credits:** 3~~
- ~~MC 382 - Public Relations Case Studies **Credits:** 3~~
- ~~MC 396 - Strategic Communication Research **Credits:** 3~~
- ~~MC 466 - Law of Mass Communications **Credits:** 3~~
- ~~MC 480 - Advertising and Public Relations Design and Production **Credits:** 3~~
- ~~MC 491 - Mass Communication Internship **Credits:** 1-3~~
- ~~MC 645 - Public Relations Campaigns **Credits:** 3~~

~~Select one of the following:~~

- ~~MC 557 - Advertising Portfolio **Credits:** 3~~
- ~~MC 625 - Media Relations **Credits:** 3~~
- ~~MC 662 - International and Intercultural Public Relations **Credits:** 3~~
- ~~MC 665 - Managing Integrated Strategic Communications **Credits:** 3~~

MC 466 Law of Mass Communication
**Credits: 3**

MC 491 Mass Communications Internship
**Credits: 1-3**

MC 581 Strategic Communications Campaigns
**Credits: 3**

Electives (at least 6 hours at 500 level or above)
**Credits: 12**

**A minimum total credit hours required for graduation: (120)**

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| • ~~MC 682 - Seminar in Public Relations~~ ~~Credits:~~ ~~3~~<br><br>A minimum total credit hours required for graduation: (120) | |

**Dean of Arts and Sciences**
**Medical Laboratory Science (B.A./B.S.)**

**Rationale:** KBOR requested a reduction in the credit hour requirements for baccalaureate degree programs in order to meet best practices for on-time completion. Reduction of credit hours will come from free electives.

**Impact (i.e. if this impacts another unit) – Statement should include the date when the head of a unit was contacted, and the response or lack of:** n/a

http://catalog.k-state.edu/preview_program.php?catoid=40&poid=12853&returnto=7054

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| The medical laboratory science curriculum requires ~~94~~ credit hours (basic requirements and major requirements) at K-State and the completion of 30 hours 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. Students | The medical laboratory science curriculum requires 90 credit hours (basic requirements and major requirements) at K-State and the completion of 30 hours 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. Students |

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| are expected to have a ~~minimuym~~ GPA of 2.5 for both overall work and for the required science courses. After completion of all the requirements for the bachelor's degree in MLS, students are eligible to sit for the ASCP Board of Certification (BOC).<br><br>In addition to the general requirements for a bachelor's degree in the College of Arts and Sciences, the following courses are required:<br><br>Pre-clinical courses<br>• BIOCH 521 – General Biochemistry **Credits:** 3<br>• BIOL 198 – Principles of Biology **Credits:** 4<br>• ~~BIOL 340 – Structure and Function of the Human Body **Credits:** 8~~<br><br>• or<br>• KIN 360 – Anatomy and Physiology **Credits:** 8<br>• *Note: only four credit hours of physiology is required.<br>• BIOL 450 – Modern Genetics **Credits:** 4<br>• BIOL 455 – General Microbiology **Credits:** 4<br>• BIOL 670 – Immunology **Credits:** 4<br>• CHM 210 – Chemistry I **Credits:** 4<br>• CHM 230 – Chemistry II **Credits:** 4<br>• CHM 350 – General Organic Chemistry **Credits:** 3<br>• CHM 351 – General Organic Chemistry Laboratory **Credits:** 2<br>• MATH 100 – College Algebra **Credits:** 3<br>• or<br>• MATH 150 – Plane Trigonometry **Credits:** 3<br>• or | are expected to have a minimum GPA of 2.5 for both overall work and for the required science courses. After completion of all the requirements for the bachelor's degree in MLS, students are eligible to sit for the ASCP Board of Certification (BOC).<br><br>In addition to the general requirements for a bachelor's degree in the College of Arts and Sciences, the following courses are required:<br><br>Pre-clinical courses<br>• BIOCH 521 – General Biochemistry **Credits:** 3<br>• BIOL 198 – Principles of Biology **Credits:** 4<br>• BIOL 341 – Human Body I **Credits:** 4<br>• and<br>• BIOL 342 – Human Body II **Credits:** 4<br>• or<br>• KIN 360 – Anatomy and Physiology **Credits:** 8<br>• *Note: only four credit hours of physiology is required.<br>• BIOL 450 – Modern Genetics **Credits:** 4<br>• BIOL 455 – General Microbiology **Credits:** 4<br>• BIOL 670 – Immunology **Credits:** 4<br>• CHM 210 – Chemistry I **Credits:** 4<br>• CHM 230 – Chemistry II **Credits:** 4<br>• CHM 350 – General Organic Chemistry **Credits:** 3<br>• CHM 351 – General Organic Chemistry Laboratory **Credits:** 2<br>• MATH 100 – College Algebra **Credits:** 3<br>• or<br>• MATH 150 – Plane Trigonometry **Credits:** 3 |

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| • MATH 205 – General Calculus and Linear Algebra **Credits:** 3<br>• or<br>• MATH 220 – Analytic Geometry and Calculus I **Credits:** 4<br>• STAT 325 – Introduction to Statistics **Credits:** 3<br>• or<br>• STAT 340 – Biometrics I **Credits:** 3<br>• or<br>• STAT 350 – Business and Economic Statistics I **Credits:** 3<br><br>***Choose one of the following:***<br><br>• BIOL 530 – Pathogenic Microbiology **Credits:** 3<br>• BIOL 541 – Cell Biology **Credits:** 3<br>• BIOL 545 – Human Parasitology **Credits:** 3<br>• BIOL 609 – Cellular and Molecular Biology of Human Diseases **Credits:** 3<br>• BIOL 730 – General Virology **Credits:** 3<br>• PHYS 113 – General Physics I **Credits:** 4<br><br>Notes:<br><br>*Because requirements for admission into clinical programs may change or vary, consultation with a medical laboratory science advisor is recommended.*<br><br>For more information go to K-State Pre-Health.<br><br>**Total credit hours required for graduation: (~~124~~)** | • or<br>• MATH 205 – General Calculus and Linear Algebra **Credits:** 3<br>• or<br>• MATH 220 – Analytic Geometry and Calculus I **Credits:** 4<br>• STAT 325 – Introduction to Statistics **Credits:** 3<br>• or<br>• STAT 340 – Biometrics I **Credits:** 3<br>• or<br>• STAT 350 – Business and Economic Statistics I **Credits:** 3<br><br>***Choose one of the following:***<br><br>• BIOL 530 – Pathogenic Microbiology **Credits:** 3<br>• BIOL 541 – Cell Biology **Credits:** 3<br>• BIOL 545 – Human Parasitology **Credits:** 3<br>• BIOL 609 – Cellular and Molecular Biology of Human Diseases **Credits:** 3<br>• BIOL 730 – General Virology **Credits:** 3<br>• PHYS 113 – General Physics I **Credits:** 4<br><br>Notes<br><br>*Because requirements for admission into clinical programs may change or vary, consultation with a medical laboratory science advisor is recommended.*<br><br>For more information go to K-State Pre-Health.<br><br>**Total credit hours required for graduation: (120)** |

**Changes to Music Education (B.M.E.)**

Rationale: The ratioanle for this change is to develop a process by which the demonstration of piano proficiency is more efficient and transparent to both the faculty and students. Currently, students are not always clear on expectations, have to enroll in a separate class and often enroll in the section multiple times even though once is enough. This change would streamline the path to proficiency and eliminate the hidden credits currently in the program due to not meeting the proficieny in the alloted time.

Impact: The department head was contacted in the summer of 2017 to begin revising the curriculum to better reflect the outcomes expected of the students. Upon a detailed analysis, it was revealed that there was a larger task at hand and restructuring of the courses and piano expectations was undertaken.

http://catalog.k-state.edu/preview_program.php?catoid=40&poid=12894

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| 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. | 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. |
| **Bachelor's degree requirements** | **Bachelor's degree requirements** |
| **Professional educational requirements** | **Professional educational requirements** |
| • DED 075 - Orientation to Teacher Education at KSU **Credits:** 0<br>• EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1<br>• EDCEP 315 - Educational Psychology **Credits:** 3<br>• EDCEP 525 - Interpersonal Relations in the Schools **Credits:** 1<br>• EDSEC 200 - Teaching as a Career **Credits:** 1 | • DED 075 - Orientation to Teacher Education at KSU **Credits:** 0<br>• EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1<br>• EDCEP 315 - Educational Psychology **Credits:** 3<br>• EDCEP 525 - Interpersonal Relations in the Schools **Credits:** 1<br>• EDSEC 200 - Teaching as a Career **Credits:** 1 |

- EDSEC 230 – Early Field Experience **Credits:** 1
- EDSEC 310 – Foundations of Education **Credits:** 3
- EDSEC 376 – Core Teaching Skills: Secondary/Middle **Credits:** 3
- EDSEC 455 – Teaching in a Multicultural Society **Credits:** 1
- EDSEC 477 – Content Area Literacies and Diverse Learners **Credits:** 2
- EDSEC 582 – Teaching Internship in Music **Credits:** 6–12
- EDSP 323 – Exceptional Students in the Secondary School **Credits:** 2
- HDFS 110 – Introduction to Human Development **Credits:** 3

### *For the College of Education licensure:*

For admission to the teacher education program and licensure in the state of Kansas, please visit the College of Education website.

## Music requirements for all options:

- Major performing organization each semester except the professional semester
- MUSIC 050 – Recital Attendance **Credits:** 0 (7 semesters)
- MUSIC 060 – Piano Proficiency **Credits:** 0
- MUSIC 210 – Music Theory I **Credits:** 3
- MUSIC 230 – Music Theory II **Credits:** 3
- MUSIC 231 – Aural Skills I **Credits:** 1
- MUSIC 232 – Fundamentals of Teaching Music **Credits:** 2


- EDSEC 230 – Early Field Experience **Credits:** 1
- EDSEC 310 – Foundations of Education **Credits:** 3
- EDSEC 376 – Core Teaching Skills: Secondary/Middle **Credits:** 3
- EDSEC 455 – Teaching in a Multicultural Society **Credits:** 1
- EDSEC 477 – Content Area Literacies and Diverse Learners **Credits:** 2
- EDSEC 582 – Teaching Internship in Music **Credits:** 6–12
- EDSP 323 – Exceptional Students in the Secondary School **Credits:** 2
- HDFS 110 – Introduction to Human Development **Credits:** 3

### *For the College of Education licensure:*

For admission to the teacher education program and licensure in the state of Kansas, please visit the College of Education website.

## Music requirements for all options:


- Major performing organization each semester except the professional semester
- MUSIC 050 – Recital Attendance **Credits:** 0 (7 semesters)
- MUSIC 060 – Piano Proficiency **Credits:** 0
- MUSIC 210 – Music Theory I **Credits:** 3
- MUSIC 230 – Music Theory II **Credits:** 3
- MUSIC 231 – Aural Skills I **Credits:** 1
- MUSIC 232 – Fundamentals of Teaching Music **Credits:** 2
- MUSIC 249 – Introduction to Music of the World **Credits:** 3

- 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 322 – Aural Skills Proficiency **Credits:** 0
- MUSIC 360 – Music Theory IV **Credits:** 3
- MUSIC 361 – Aural Skills III **Credits:** 1
- MUSIC 417 – Conducting **Credits:** 2
- MUSIC 501 – Half Recital **Credits:** 0
- MUSIC 502 – Full Recital **Credits:** 0
- MUSIC 511 – Music in the Schools K–6 **Credits:** 3
- MUSIC 512 – Music Program in Junior/Senior High Schools **Credits:** 3
- MUSIC 525 – Instrumentation and Arranging **Credits:** 2
- MUSIC 530 – Music History I: Ancient Greece through 1700 **Credits:** 3
- MUSIC 531 – Music History II: 1700 to 1850 **Credits:** 3
- MUSIC 532 – Music History III: 1850 to the Present **Credits:** 3
- MUSIC 670 – Advanced Studies in Music Education **Credits:** 2

### *Applied lessons each semester except the professional semester*

- MUSIC 255 – Lower-Division Performance **Credits:** 1–4
- and/or
- MUSIC 455 – Upper-Division Performance **Credits:** 0–4

### Note:

A half recital or an extended "jury" recital is required before graduation. Divisional

- MUSIC 320 – Music Theory III **Credits:** 3
- MUSIC 321 – Aural Skills II **Credits:** 1
- MUSIC 322 – Aural Skills Proficiency **Credits:** 0
- MUSIC 360 – Music Theory IV **Credits:** 3
- MUSIC 361 – Aural Skills III **Credits:** 1
- MUSIC 417 – Conducting **Credits:** 2
- MUSIC 501 – Half Recital **Credits:** 0
- MUSIC 502 – Full Recital **Credits:** 0
- MUSIC 511 – Music in the Schools K–6 **Credits:** 3
- MUSIC 512 – Music Program in Junior/Senior High Schools **Credits:** 3
- MUSIC 525 – Instrumentation and Arranging **Credits:** 2
- MUSIC 530 – Music History I: Ancient Greece through 1700 **Credits:** 3
- MUSIC 531 – Music History II: 1700 to 1850 **Credits:** 3
- MUSIC 532 – Music History III: 1850 to the Present **Credits:** 3
- MUSIC 670 – Advanced Studies in Music Education **Credits:** 2

### *Applied lessons each semester except the professional semester*

- MUSIC 255 – Lower-Division Performance **Credits:** 1–4
- and/or
- MUSIC 455 – Upper-Division Performance **Credits:** 0–4

### Note:

A half recital or an extended "jury" recital is required before graduation. Divisional

recommendation determines the methods of satisfying this requirement.

Piano proficiency requirements must be met one semester before scheduling student teaching.

## Additional music requirements for instrumental emphasis

Instrumental majors (Winds and percussion only) are required to participate in marching band for at least two semesters (preferably during the freshman and sophomore years.

- MUSIC 112 – University Choir **Credits:** 0–1 (Enroll for 1 credit)
- or a large vocal organization
- MUSIC 113 – University Band **Credits:** 0–1 (as the lab for MUSIC 518 – Instrumental Conducting)
- MUSIC 203 – Vocal Techniques I **Credits:** 1
- MUSIC 204 – Vocal Techniques II **Credits:** 1
- ~~MUSIC 206 – Piano Class I **Credits:** 1~~
- ~~or~~
- ~~MUSIC 207 – Piano Class II **Credits:** 1~~

- All MUSIC 280/480 can be taken for **Credits:** 0

recommendation determines the methods of satisfying this requirement.

Piano proficiency requirements must be met one semester before scheduling student teaching.

## Additional music requirements for instrumental emphasis

Instrumental majors (Winds and percussion only) are required to participate in marching band for at least two semesters (preferably during the freshman and sophomore years.

- MUSIC 112 – University Choir **Credits:** 0–1 (Enroll for 1 credit)
- or a large vocal organization
- MUSIC 113 – University Band **Credits:** 0–1 (as the lab for MUSIC 518 – Instrumental Conducting)
- MUSIC 203 – Vocal Techniques I **Credits:** 1
- MUSIC 204 – Vocal Techniques II **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)
- Or 4 credits from MUSIC 254 or MUSIC 255
- (MUSIC 254 – Secondary Performance Credits: 1–2
- MUSIC 255 – Lower-Division Performance Credits: 1–2)
- MUSIC 060 – Piano Proficiency (Corequisite with MUSIC 214, but can be enrolled in separately if taking piano lessons)
- All MUSIC 280/480 can be taken for **Credits:** 0

- MUSIC 513 – Teaching Beginning Band and Jazz Techniques **Credits:** 1
- MUSIC 518 – Instrumental Conducting **Credits:** 2

## Select an additional 8 semester credit hours according to the major instrument

- MUSIC 234 – String Techniques and Materials **Credits:** 1
- MUSIC 235 – Percussion Techniques and Materials **Credits:** 2
- 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 427 – Advanced String Techniques and Materials **Credits:** 1–2 (1 credit)

## Additional requirements for vocal/choral emphasis

**If voice is the major performance area**

- ~~Keyboard **Credits:** 2~~


- MUSIC 513 – Teaching Beginning Band and Jazz Techniques **Credits:** 1
- MUSIC 518 – Instrumental Conducting **Credits:** 2

## Select an additional 8 semester credit hours according to the major instrument

- MUSIC 234 – String Techniques and Materials **Credits:** 1
- MUSIC 235 – Percussion Techniques and Materials **Credits:** 2
- 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 427 – Advanced String Techniques and Materials **Credits:** 1–2 (1 credit)

## Additional requirements for vocal/choral emphasis

**If voice is the major performance area**


- (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)
- Or 4 credits from MUSIC 254 or MUSIC 255
- (MUSIC 254 – Secondary Performance Credits: 1–2

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| • MUSIC 513 – Beginning Band and Jazz Techniques **Credits:** 1<br>• Woodwind Techniques<br>• Brass Techniques<br>• Ensemble<br>• MUSIC 112 – University Choir **Credits:** 0–1 (0 credit) as the lab for MUSIC 517 – Choral Conducting<br>• MUSIC 234 – String Techniques and Materials **Credits:** 1<br>• MUSIC 235 – Percussion Techniques and Materials **Credits:** 2<br>• MUSIC 236 – Clarinet & Saxophone Woodwind Techniques and Materials **Credits:** 1<br>• or<br>• MUSIC 237 – Double Reed and Flute Woodwind Techniques and Materials **Credits:** 1<br>• MUSIC 238 – High Brass Techniques and Materials **Credits:** 1<br>• or<br>• MUSIC 239 – Low Brass Techniques and Materials **Credits:** 1<br>• MUSIC 475 – Opera Workshop **Credits:** 1–18 (Enroll for 1 credit)<br>• or<br>• MUSIC 490 – Collegium Musicum **Credits:** 1<br>• MUSIC 517 – Choral Conducting **Credits:** 2 | • MUSIC 255 – Lower-Division Performance Credits: 1–2)<br>• MUSIC 060 – Piano Proficiency (Corequisite with MUSIC 214, but can be enrolled in separately if taking piano lessons)<br>• MUSIC 513 – Beginning Band and Jazz Techniques **Credits:** 1<br>• Woodwind Techniques<br>• Brass Techniques<br>• Ensemble<br>• MUSIC 112 – University Choir **Credits:** 0–1 (0 credit) as the lab for MUSIC 517 – Choral Conducting<br>• MUSIC 234 – String Techniques and Materials **Credits:** 1<br>• MUSIC 235 – Percussion Techniques and Materials **Credits:** 2<br>• MUSIC 236 – Clarinet & Saxophone Woodwind Techniques and Materials **Credits:** 1<br>• or<br>• MUSIC 237 – Double Reed and Flute Woodwind Techniques and Materials **Credits:** 1<br>• MUSIC 238 – High Brass Techniques and Materials **Credits:** 1<br>• or<br>• MUSIC 239 – Low Brass Techniques and Materials **Credits:** 1<br>• MUSIC 475 – Opera Workshop **Credits:** 1–18 (Enroll for 1 credit)<br>• or<br>• MUSIC 490 – Collegium Musicum **Credits:** 1<br>• MUSIC 517 – Choral Conducting **Credits:** 2 |

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| **Total credit hours required for graduation, depending on emphasis: (141-142)** | **Total credit hours required for graduation, depending on emphasis: (141-142)** |

**Political Science**
Changes to the Political Science B.A./B.S. – New tracks

**Rationale:** Adding optional track career paths to guide students in their choices of courses.

**Impact (i.e. if this impacts another unit) – Statement should include the date when the head of a unit was contacted, and the response or lack of:** N/A

http://catalog.k-state.edu/preview_program.php?catoid=40&poid=12889&returnto=7043

| FROM | TO |
|---|---|
| A major consists of a minimum of 36 credit hours in political science, distributed as follows: | A major consists of a minimum of 36 credit hours in political science, distributed as follows: |
| **Bachelor's degree requirements** | **Bachelor's degree requirements** |
| **Introductory courses** | **Introductory courses** |
| • POLSC 115 - U.S. Politics **Credits:** 3 | • POLSC 115 - U.S. Politics **Credits:** 3 |
| **Plus two courses from:** | **Plus two courses from:** |
| • POLSC 135 - Introduction to Comparative Politics **Credits:** 3<br>• POLSC 301 - Introduction to Political Thought **Credits:** 3<br>• POLSC 333 - World Politics **Credits:** 3 | • POLSC 135 - Introduction to Comparative Politics **Credits:** 3<br>• POLSC 301 - Introduction to Political Thought **Credits:** 3<br>• POLSC 333 - World Politics **Credits:** 3 |
| **Methods course** | **Methods course** |

To be taken after completion of at least 2 of these 3 introductory courses: POLSC 115, 135, and 333:

- POLSC 400 - Political Inquiry and Analysis **Credits:** 3

## Advanced courses (12 credit hours)

To be taken after POLSC 400. Intersession courses cannot be used to fulfill these requirements. Four courses, at the 500 level or above, in two of the following areas:

- Political thought
- American government and politics
- International relations
- Comparative government and politics

## Electives

Twelve credit hours, including any political science course except for POLSC 350 Current Issues. Only 3 credit hours of the major are allowed to be readings or problems. Only six credit hours of the major are allowed to be internship credits.

To be taken after completion of at least 2 of these 3 introductory courses: POLSC 115, 135, and 333:

- POLSC 400 - Political Inquiry and Analysis **Credits:** 3

## Advanced courses (12 credit hours)

To be taken after POLSC 400. Intersession courses cannot be used to fulfill these requirements. Four courses, at the 500 level or above, in two of the following areas:

- Political thought
- American government and politics
- International relations
- Comparative government and politics

## Electives

Twelve credit hours, including any political science course except for POLSC 350 Current Issues. Only 3 credit hours of the major are allowed to be readings or problems. Only six credit hours of the major are allowed to be internship credits.

## Optional Tracks

**Public Service Track**

The public service track is designed for students interested in an administrative position in the public or nonprofit sector.

Required: (6 credits)

- POLSC 337- Introduction to Public Policy Credits: (3)
- POLSC 507- Introduction to Public Administration Credits: (3)

Electives: (3 credits)

- POLSC 607 – Administrative Law Credits: (3)
- POLSC 618 – Urban Politics Credits: (3)

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| | • POLSC 620 – State and Local Government Credits: (3)<br><br>Concurrent Degree Students Choose (3 credits)<br><br>• POLSC 700 – Research Methods in Political Science Credits: (3)<br>• POLSC 702 - Public Administration and Society Credits: (3)<br>• POLSC 708 – Public Personnel Administration Credits: (3)<br>• POLSC 710 – Policy Analysis and Evaluation Credits: (3)<br>• POSLC 735 – Public Organization Theory Credits: (3)<br>• POLSC 737 – Public Budgeting Credits: (3)<br><br>**Global Politics and Security Track**<br><br>The Global Politics and Security Track is for students who are interested working in international security, diplomacy, international organizations and related non-profit organizations.<br><br>Required: (6 credit hours)<br><br>• POLSC 333 – World Politics Credits: (3)<br>• POLSC 543 – American Foreign Policy Credits: (3)<br><br>Electives: (3 credit hours)<br><br>• POLSC 540 – Global Security Credits: (3)<br>• POLSC 541 – Politics of World Economy Credits: (3)<br>• POLSC 545 – Politics of Developing Nations Credits: (3)<br>• POLSC 549 – International Defense Strategies Credits: (3)<br>• POLSC 683 – Ethnic Conflict Credits: (3) |

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| | • POLSC 642 – International Conflict Credits: (3)<br>• POLSC 653 – International Politics of the Middle East Credits: (3)<br><br>**Society and Environment Track**<br><br>The Society and Environment Track is for students who are interested in working in the areas of social and environmental problem-solving, including working in agricultural and food-related private businesses as they attempt to make product with less negative social and environmental impact, in non-profit and political advocacy groups, and social and environmental change programs at every level.<br><br>Required: (6 credits)<br>• POLSC 377 – Introduction to Public Policy Credits: (3)<br>• POLSC 643 – Global Human Rights Credits: (3)<br>• Or<br>• POLSC 401 – Environmental Political Thought Credits: (3)<br><br>Electives: (3 credits)<br>• POLSC 601 – U.S, Energy: Pathways to Sustainability Credits: (3)<br>• POLSC 618 – Urban Politics Credits: (3)<br>• POLSC 672 – Ideologies Credits: (3)<br>• POLSC 606 – Gender and Politics Credits: (3)<br>• POLSC 667 – American Political Thought Credits: (3)<br>• POLSC 545 – The Politics of Developing Nations Credits: (3)<br><br>**Politics of the Global South Track**<br><br>The Politics of the Global South Track is for students interested in careers that impact or involve the non-Western world. This track will |

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| | include knowledge of African, Asian, Latin American, and Middle Eastern countries.<br><br>Required: (6 credit hours)<br>• POLSC 135 – Introduction to Comparative Politics Credits: (3)<br>• POLSC 526 – Comparative Political Institutions Credits: (3)<br>• Or<br>• POLSC 545 – The Politics of Developing Nations Credits: (3)<br><br>Electives: (3 credit hours)<br>• POLSC 524 – Political Islam Credits: (3)<br>• POLSC 527 – Comparative Political Corruption Credits: (3)<br>• POLSC 606 – Gender and Politics Credits: (3) (when approved by department)<br>• POLSC 622 – Latin American Politics Credits: (3)<br>• POLSC 625 – East Asian Politics Credits: (3)<br>• POLSC 624 – Middle East Politics Credits: (3)<br>• POLSC 626 – African Politics Credits: (3)<br>• POLSC 653 – International Politics of Middle East Credits: (3)<br>• POLSC 655 – International Politics of Latin America Credits: (3)<br>• POLSC 654 – International Politics of Africa Credits: (3)<br>• POLSC 543 – Global Human Rights Credits: (3)<br><br>**The Law Track**<br><br>This track is designed for students interested in going into the legal profession in any capacity, whether going on to law school or into legal research and assistance. It is useful for those who |

## Information for dual majors and nonmajors

The political science program is often advantageously combined with another major. Those seeking dual majors should coordinate their program in consultation with advisors in each area.

## Total credit hours required for graduation: (120)

wish to work in private business in the capacity of governmental and legal relations.

Required:  (6 credit hours)

- POLSC 115 - U.S. Politics  Credits: (3)
- POLSC 614 - Constitutional Law 1 Credits: (3)
- Or
- POLSC 615 - Constitutional Law 2 Credits: (3)

Electives:  (3 credit hours)

- POLSC 612 - The Judicial Process Credits: (3)
- POLSC 607 - Administrative Law  Credits: (3)
- *POLSC 614 - Constitutional Law 1 Credits: (3)
- or
- *POLSC 615 - Constitutional Law 2 Credits: (3)
- *not taken for required course
- POLSC 647 - International Law  Credits: (3)
- POLSC 670 - Law, Politics and Literature Credits: (3)

## Information for dual majors and nonmajors

The political science program is often advantageously combined with another major. Those seeking dual majors should coordinate their program in consultation with advisors in each area.

## Total credit hours required for graduation: (120)

## Business Administration

**NEW: Business of Sports and Entertainment Certificate**

# Business of Sports and Entertainment Certificate

**BACKGROUND AND EDUCATIONAL OBJECTIVES:**

The business of sports and entertainment (BS&E) is wide reaching and involves not only organizations directly involved in providing sports and entertainment, but also organizations that market products and services through sports and entertainment. Sports and entertainment permeates contemporary culture, particularly in North America. Sports organizations include teams, leagues, associations, and events, as well as equipment and apparel firms. The sports industry not only entails the games, but also the fan experience, hence the coupling with entertainment. Entertainment also encompasses organizations in the film, television, and music industries. Prominent brands commonly promote their products and services through these organizations, either through sponsorships or through advertising.

Revenue for sports and music events is expected to rise over ten percent annually for the next five years just from ticket sales. (Statistica Digital Market Outlook 2017). Event promotion, as an industry, has a consistent annual growth as well. Whether the economy is in a boom or bust, sports and entertainment venues thrive, giving event promotion an annualized growth rate of 5.1% (IBISWorld 2017). Consumers are willing to splurge on events. Corporations, therefore, are willing to spend to promote these events through sponsorships, as well as showcase their products at these events. Events draw large crowds who are willing to spend on food, beverage and merchandise. Business is involved in many ways – from the building of venues, operation of venues, sponsorship of events, product and brand management, as well as advertising and sales.

Not only are large businesses involved in sports and entertainment, but small businesses as well. Dance studios, community theaters, even artists and music teachers need skills to enhance their businesses.

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.

Even though sports-related programs are prevalent at several Kansas schools, including University of Kansas and Wichita State University, none prepare students for the jobs mentioned above. Both Kansas and Wichita State offer a sports management program housed in their School of Education. These programs prepare students for positions in the sports and

athletics industry, such as high school coaches, fitness and recreation positions, as well as intercollegiate athletics administration. Both schools offer degree programs at the undergraduate and graduate levels. Both the University of Arizona and the University of Colorado-Boulder offer sports-related certificate programs. The University of Denver offers a Sports and Entertainment Marketing degree within their Business School. However, it is only at the graduate level.

**STATEMENT OF NEED:**

The rapidly changing sports and entertainment landscape, with declines in attendance for sporting events and plateaus in entertainment revenue, yet increases in revenue from media rights deals and merchandise, is experiencing an increasing impact of technology/data/analytics in decision-making. The Business of Sports and Entertainment Certificate will give students needed business skills for jobs in the sports and entertainment industries, but also in corporations where sports and entertainment decisions are made. Revenue generation in sports is critical - particularly beyond ticket sales and donations – at both the collegiate and professional levels. The purpose of this certificate is to develop marketing, economic, and management skills needed in this environment.

As in many industries, the business models are constantly evolving as a result of technological innovations and global influences. There is a greater increase in the use of user-generated content that competes with and in some cases compliments industry standard bearers. Paramount is the need to generate new marketing strategies that create valuable partnerships and revenue streams. Other industries are seeing these effects escalate and thus, demonstrate a further need for students to adapt these influences.

Recruitment for athletes at the college level (and even at the professional level through free agency) has become aggressive. Colleges are looking for advantages in order to recruit talent. The Business of Sports and Entertainment Certificate can be used to attract student-athletes by capitalizing on existing passions and interests. This will carry over into the classroom - producing engaged, motivated students. As a result, students pursuing the certificate will be better prepared and more experienced, allow them to succeed on the job market regardless of the career path they choose.

Student demand for sports and entertainment courses is high. One course that will be required for the certificate, MKTG630: Sports Marketing, has a current enrollment for the Spring semester of 196. A poll of 115 students in the Fall 2017 section of the course found that 80% "would have pursued if offered" or "will pursue" the proposed certificate. Seventy-two percent of the students in the Spring 2018 section indicated they would have pursued the certification if offered or will pursue the certificate when offered, with another 20% interested in receiving more information.

Strong relationships are already in place with the premier sports brands in our region, primarily built through MKTG630: Sports Marketing's Sports Marketing Speaker Series. Speakers from the following organizations have appeared or are already scheduled to appear as guests since Fall 2017: Kansas City Chiefs, Kansas City Royals, Oklahoma City Thunder, Sporting Kansas City, K-State Athletics, Kansas City Sports Commission, New Orleans Pelicans, New Orleans Saints, USA Triathlon, Kansas City T-Bones, New Jersey Devils, and Philadelphia 76ers. Speakers from

these organizations not only relay their experience and expertise to the students in the classroom, but also incorporate meetings with small groups of students with a particular interest in their industries while on campus. In some instances, groups of students have had the opportunity for experiential learning by working directly with these organizations in their marketing and brand building efforts.

Jobs in sports business include marketing analyst, digital analyst, business affairs coordinator, marketing coordinator, account management and strategic business ventures specialist /E(www.indeed.com). Jobs in entertainment business include customer experience manager, business development manager, director of game entertainment, marketing events coordinator, and sales manager (www.indeed.com).

Current K-State recruiters can also find value in this program. MuscleMilk (Hormel) is the official partner of the Australian Football League. Frito Lay, GTM Sportswear, and other corporations with sports interest have hired K-State Business students.

**CURRICULUM OVERVIEW:**

The Business of Sports and Entertainment Certificate will consist of 15 hours, with three core courses and two elective courses. The current proposal is focused at undergraduate students, with the potential of later expansion into a graduate program.

A. Core Courses

1. MKTG 630: Sports Marketing
   This course gives students the opportunity to understand the coupling of marketing and analytics in a sports context. Speakers from various sports organizations discuss marketing in sports.
   Prerequisite: MKTG 400
2. MKTG 625: Entertainment Marketing
   The course examines the entertainment industry using strategic marketing approaches. The goal is for students to assess market opportunities, develop marketing strategies, and design implementation approaches. We will explore the theory and applications of marketing concepts through a mix of cases, discussions, lectures, guest speakers, individual assignments, and group projects.
   Prerequisite: MKTG 400
3. ECON 524 Sports Economics
   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.
   Prerequisite: ECON 120 or AGEC 120 or AGEC 121

B. Elective Courses (students will choose two)

- MANGT 630: Sports Management
  While we are all familiar with the star athletes and coaches that provide the face of the industry, running a successful sports franchise requires well-trained and innovative

managers behind the scenes. Throughout the semester, students will explore the management skills and knowledge required to operate in the unique context of sports. Major management topics covered include innovation, diversity and ethics; human resource management; organizational strategy; and leadership – all based in the unique context of sports.
Prerequisite: MGMT 420 or Junior Standing

- MKTG 495 – Marketing Internship
  Applied marketing business experience designed to coordinate the interests of students and firms.
- MKTG 542: Fundamentals of Professional Selling
  Focuses on interpersonal communications between buyers and sellers, both oral and written. The mechanics and intricacies of personal sales presentations are developed through practice.
- HM463: Business Event Coordination
  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.

**OTHER 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.

**RESOURCE IMPLICATIONS:**

Two new courses will be required, MKTG 625: Entertainment Marketing and MGMT 630: Sports Management. The other core and elective courses already exist and will be offered regularly by the Marketing, Management, Economics, and Hospitality Management departments. The addition of a Marketing elective helps meet the departmental need for additional electives due to the increase in the number of Marketing electives needed with the new 120 hour degree requirements. The expectation is the accommodation of initial student demands for all courses in the coming semesters. Opportunities for external fundraising are already being pursued with the potential to help facilitate the offering of these courses. Thus, we believe the Certificate will not have a detrimental effect on the College's resources. There is no expectation of needing additional faculty/staff resources.

For students pursuing the certificate, it will not require business students to take additional classes as students can incorporate these courses as electives. We believe that the Certificate will be an attractive option obtained with a minimum of additional hours.

**REQUESTED EFFECTIVE DATE:**

Spring 2019

**STUDENT LEARNING GOALS**

A student completing the certificate in Business of Sports and Entertainment should be able to:

- apply quantitative reasoning to sports and entertainment strategy decisions,
- form and execute marketing strategies,
- apply management concepts to current trends and issues in sports and entertainment, and
- understand economic analysis of sports and entertainment.

**ASSESSMENT PLAN**

- In MKTG 630, selected test items will be examined annually in order to determine students' comprehension of the different functional areas of the sports/entertainment industry and their ability to apply the basic principles.
- Feedback from companies where students intern and/or are hired will be solicited to determine if the courses are adequately preparing students for a career in the industry.
- Students completing the program will be surveyed every five years to determine how the certificate program helped prepare them for a career in the sports and entertainment industry.

**APPENDIX 1**

University of Kansas

This undergraduate program is housed in the KU School of Education. Courses include sociology of sports, sports ethics and event management.

Wichita State University

The WSU undergraduate program housed in the College of Education offers both a major and a minor in sports management. The courses are intended to be sports management specific, and not general business related according to the brochure.

University of Denver

Undergraduate degree with a major in Sports Business. Students are required to take the required University and Business core courses, as well as sports business courses. Students also have the opportunity to take a 2-week study abroad course designed for the sports business program.

University of Colorado-Boulder

The UCB certificate is a 6-credit "boot camp" where students learn about sports management in a two month, intensive summer certificate program.

## Business Administration

### Professional Strategic Selling, B.S.

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| **Professional Strategic Selling** | **Professional Strategic Selling**<br><br>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:<br>1. Provide a full range of coursework aimed at developing students selling skills;<br>2. Provide an avenue for students who are seeking a sales career to more fully prepare for the realities of the sales role.<br>3. 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.<br>4. 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;<br>5. Meet the business community's ever-growing demand for well-prepared sales talent.<br>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. |
| **Admission Criteria:**<br>Selective admissions to the major will be employed; students must apply to the program, submitting a completed application form, transcript and resume and participating in an interview process. Criteria for selection will include academic performance, a demonstrated interest in a career in sales, and space availability. | **Admission Criteria:**<br>Selective admissions to the major will be employed; students must apply to the program, submitting a completed application form, transcript and resume and participating in an interview process. Criteria for selection will include academic performance, a demonstrated interest in a career in sales, and space availability. |

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| **Business Administration Pre-Professions Program (~~54~~ credit hours)** | **Business Administration Pre-Professions Program (45 credit hours)** |
| BAPP Requirements | BAPP Requirements |
| **Business Core (30 credit hours)** | **Business Core (30 credit hours)** |
| Business Core Requirements | Business Core Requirements |
| **Major Field Requirements (18 credit hours)** | **Major Field Requirements (18 credit hours)** |
| • MKTG 542 - Fundamentals of Professional Selling **Credits:** 3<br>• MKTG 550 – Business Marketing **Credits:** 3<br>• MKTG 560 – Sales Force Leadership **Credits:** 3<br>• MKTG 565 - Customer Relationship Management **Credits:** 3<br>• MKTG 570 – Advanced Selling **Credits:** 3<br>• MKTG 499 – Sales Practicum **Credits:** 3 | • MKTG 542 - Fundamentals of Professional Selling **Credits:** 3<br>• MKTG 550 – Business Marketing **Credits:** 3<br>• MKTG 560 – Sales Force Leadership **Credits:** 3<br>• MKTG 565 - Customer Relationship Management **Credits:** 3<br>• MKTG 570 – Advanced Selling **Credits:** 3<br>• MKTG 499 – Sales Practicum **Credits:** 3 |
| **Major Field Electives (~~6~~ credit hours)** | **Major Field Electives (9 credit hours)** |
| • MKTG 450 - Consumer Behavior **Credits:** 3<br>• MKTG 496 - Special Topics in Marketing: Relationship Marketing **Credits:** 3<br>• MKTG 496 - Special Topics in Marketing: Cooperation Selling **Credits:** 3<br>• MKTG 544 - International Marketing **Credits:** 3<br>• MKTG 546 - Services Marketing **Credits:** 3<br>• MKTG 545 - Marketing Channels **Credits:** 3<br>• MKTG 580 - ~~Business Intelligence for Strategic Decision Making~~ **Credits:** 3 | • MKTG 450 - Consumer Behavior **Credits:** 3<br>• MKTG 496 - Special Topics in Marketing: Relationship Marketing **Credits:** 3<br>• MKTG 496 - Special Topics in Marketing: Cooperation Selling **Credits:** 3<br>• MKTG 544 - International Marketing **Credits:** 3<br>• MKTG 546 - Services Marketing **Credits:** 3<br>• MKTG 545 - Marketing Channels **Credits:** 3<br>• MKTG 580 – Marketing Analytics Fundamentals **Credits:** 3<br>• MKTG 581 – Applications of Marketing Analytics **Credits:** 3 |
| **Economics electives (~~6~~ credit hours)** | **Economics electives (3 credit hours)** |
| Economic~~s~~ elective~~s~~ must be selected from economics course offerings numbered 500 or above **excluding ECON 505** in consultation with the student's academic advisor. | Economic elective must be selected from economics course offerings numbered 500 or above **excluding ECON 505** in consultation with the student's academic advisor. |

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| Economic~~s~~ elective~~s~~ may not overlap with economics courses used to complete other requirements for the ~~marketing~~ major. | Economics electives may not overlap with economics courses used to complete other requirements for the professional strategic selling major. |
| **Unrestricted electives (~~12~~ credit hours)** | **Unrestricted electives (15 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. | 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 credit hours required for graduation: (126~~6~~)** | **Total credit hours required for graduation: (120)** |

**Rationale: (This rationale was included in the proposals to change the other majors in Business from 126 to 120. This new major – Professional Strategic Selling – was approved already at 120 hours before we had eliminated the 9 hour thematic sequence requirement and the upper level economic courses going from 6 hours to 3 hours as we have done with the other majors. This proposal is to change the major to meet the requirements of the other business majors.)** Most business schools require less than 126 credit hours for graduation. In fact, most of our peer institutions require 120 credit hours. In today's world, there are also heightened concerns about the affordability of a college degree, graduation rates and timeline for graduation. The thematic sequence component of the program has been very challenging for the students to fulfill and been a drain on the academic advisors' time due to limited and on-going changes in seat and course availabilities for non-majors offered by K-State departments. Additionally, the K-State degree audit (DARS) system is not allowing for automatic placement of many of the courses in student's audits which requires our record staff to manually place most of the courses for each of the around 2500 students in the college. Furthermore, there is an expectation by the KBOR to create ways for a seamless transfer of credits from community colleges to the four-year institutions. The Thematic Sequence has proven to create significant challenges to this KBOR initiative due to the nature of its design.

Therefore, to remain competitive with other business schools, meet the needs of our students and their families, use our resources efficiently and comply with the expectation of the KBOR, we believe this is the right time to modify the requirements of our degree.

Additionally, most of our peer institutions require 0 or 3 credit hours of upper division Economics electives. To be more in line with the requirements of peer institutions, we are modifying the requirement for the upper division Economics requirement.

**Impact (i.e. if this impacts another unit) – Statement should include the date when the head of a unit was contacted, and the response or lack of:** The Department of Economics will be impacted. This proposal was discussed with Bill Blankenau and Dan Kuester on 9/13/17.

**From:** William Blankenau
**Sent:** Friday, December 15, 2017 9:39 AM
**To:** Kevin Gwinner

**Cc:** Chwen Sheu
**Subject:**

Hi Kevin,

This is to acknowledge that the Department of Economics has been informed of the decision by the College of Business to decrease the Econ electives to one for both on-campus and online business degree programs.

Bill

Bill Blankenau
Professor & Department Head
Department of Economics
Kansas State University
327 Waters Hall
Manhattan, Kansas 55606-4001
(785) 532-6340

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**From:** Kevin Gwinner
**Sent:** Wednesday, January 10, 2018 7:00 PM
**To:** John Buckwalter; Debbie Mercer; John Floros; Darren Dawson; Timothy de Noble; Amit Chakrabarti; Mary Tolar; Duane Dunn
**Cc:** Chwen Sheu; Bente Janda
**Subject:** Business College Credit Hour Reduction Notice

Hello all:
I am contacting you as a part of the curriculum change process of reducing the total number of hours in all business majors from 126 to 120 hours. As you know, this is based on an initiative by the KS BOR and I feel there are many good reasons for our degrees to make this change. We are pursuing the reduction of the 6 hours as outlined below.
First, we are changing our "Thematic Sequence" requirement, where students are required to take 9 hours of courses in a themed area outside the College of Business (e.g., Agronomy), from 9 hours in a themed area outside the College of Business to 6 hours of unrestricted electives. Because there is no way to predict which departments this will have an impact on as there are a variety of themes a student is allowed to select from (see link below for the policy including sample sequences) we are alerting all main campus academic colleges and others we think may be impacted by this proposed change.

Second, we are proposing moving from 12 required hours in economics (macro, micro, and two 500+ level courses) to 9 required hours in economics (macro, micro, and one 500+ level course) for the accounting, general business, finance, management and marketing majors. We first started having discussions with the head of the Department of Economics about this potential change in September 2017.

The exception to the above is for the remaining two majors in our college, Entrepreneurship and Management Information Systems. Since they currently require 3 and 0 hours of upper level economics courses, respectively, we are not eliminating any economics courses from those two majors and instead will add just 3 hours of unrestricted electives in place of the thematic sequence.

If you have any concerns or questions please let me know.

--Kevin.

http://cba.k-state.edu/students/current/curriculum/2017%20TSeqs.pdf

Kevin Gwinner
Edgerley Family Dean
Professor of Marketing
College of Business Administration
Kansas State University
Manhattan, KS 66506-0506
PHONE: 785-532-7227
email: kgwinner@ksu.edu
Twitter: @KSUBizDean

*Comment from Curriculog by Alice Neidfeldt:
Professional Strategic Selling Major is a new curriculum that was approved in the old course and curriculum procedures. It went through all the KSU new curriculum routing being approved at 126 credit hours to complete. When it got to KBOR they made a change and approved it at 120 credit hours. This change is to get PSS in line with the other recent changes for the other CBA majors where they were changed by the college from 126 to 120 credit hours to complete. Change includes removing the 9 hour thematic sequence area, dropping the upper level economic electives from 6 to 3 hours, changing major field electives from 6 to 9 hours, and changing unrestricted electives from 12 to 15 hours. All the changes will be effective Fall 2018.

## Education

**Elementary Education (BS in Education)**
http://catalog.k-state.edu/preview_program.php?catoid=40&poid=13034&returnto=7005

| Bachelor's degree requirements | Bachelor's degree requirements |
|---|---|
| **General Education Requirements (~~53~~ credit hours minimum)** | **General Education Requirements (49 credit hours minimum)** |
| *Communications (8-9 credit hours)*<br>• ENGL 100 - Expository Writing I **Credits:** 3<br>• ENGL 200 - Expository Writing II **Credits:** 3<br>Choose one from the following:<br>• COMM 105 - Public Speaking IA **Credits:** 2<br>• or<br>• COMM 106 - Public Speaking I **Credits:** 3<br>• or<br>• COMM 109 - Public Speaking 1A, Honors **Credits:** 3 | *Communications (8-9 credit hours)*<br>• ENGL 100 - Expository Writing I **Credits:** 3<br>• ENGL 200 - Expository Writing II **Credits:** 3<br>Choose one from the following:<br>• COMM 105 - Public Speaking IA **Credits:** 2<br>• or<br>• COMM 106 - Public Speaking I **Credits:** 2-3<br>• or<br>• COMM 109 - Public Speaking 1A, Honors **Credits:** 3 |
| *Humanities (~~12~~ credit hours)*<br>• ~~Literature **Credits:** 3~~<br>• EDEL 270 - Arts for Elementary Schools **Credits:** 3<br>• ENGL 355 - Literature for Children **Credits:** 3<br>• MUSIC 405 - Music for Elementary Teachers **Credits:** 3 | *Humanities (9 credit hours)*<br>• EDEL 270 - Arts for Elementary Schools **Credits:** 3<br>• ENGL 355 - Literature for Children **Credits:** 3<br>• MUSIC 405 - Music for Elementary Teachers **Credits:** 3 |
| *Social Science (12 credit hours)*<br>• GEOG 100 - World Regional Geography **Credits:** 3<br>• or<br>• GEOG 200 - Human Geography **Credits:** 3<br>• HIST 251 - History of the United States to 1877 **Credits:** 3<br>• or<br>• HIST 252 - History of the United States Since 1877 **Credits:** 3 | *Social Science (12 credit hours)*<br>• HDFS 110 - Introduction to Human Development **Credits:** 3<br>*Choose 3 of the 4*<br>• GEOG 100 - World Regional Geography or GEOG 200 - Human Geography **Credits:** 3 |

- ~~POLSC 110 - Introduction to Political Science Credits: 3~~
- ~~or~~
- ~~POLSC 115 - U.S. Politics Credits: 3~~
- Economics course **Credits:** 3

### *Natural Science (~~12~~ credit hours)*

~~Each~~ area requires a lab.

- Biological Science **Credits:** 4
- Physical Science **Credits:** 4
- Earth Science **Credits:** 4

### *Quantitative Sciences (9 credit hours)*

- MATH 100 - College Algebra **Credits:** 3 Grade C or better required.
- MATH 320 - Mathematics for Elementary School Teachers I **Credits:** 3

**Choose from the following:**

Grade C or better for either course

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3
- or
- STAT 325 - Introduction to Statistics **Credits:** 3

## Teacher Education Courses

A grade of C or higher is required in all teacher education courses and practica.

A 3.0 or higher GPA in teacher education courses and practica is needed before the Professional Semester.

## Pre-Professional Component (10 credit hours)

- DED 075 - Orientation to Teacher Education at KSU **Credits:** 0
- ED~~E~~L 200 - Teaching as a Career **Credits:** 1
- ED~~E~~L 230 - Early Field Experience **Credits:** 1

- HIST 251 - History of the United States to 1877 **or** HIST 252 - History of the United States Since 1877 **Credits:** 3
- Political Science course **Credits:** 3
- Economics course **Credits:** 3

### *Natural Science (11 credit hours)*

Two areas require a lab.

- Biological Science **Credits 3-4**
- Physical Science **Credits 3-4**
- Earth Science **Credits 3-4**

### *Quantitative Sciences (9 credit hours)*

- MATH 100 - College Algebra **Credits:** 3 Grade C or better required.
- MATH 320 - Mathematics for Elementary School Teachers I **Credits:** 3

**Choose from the following:**

Grade C or better for either course

- MATH 160 - Introduction to Contemporary Mathematics **Credits:** 3
- or
- STAT 325 - Introduction to Statistics **Credits:** 3

## Teacher Education Courses (56 credit hours)

A grade of C or higher is required in all teacher education courses and practica.

A 3.0 or higher GPA in teacher education courses and practica is needed before the Professional Semester.

## Pre-Professional Component (10 credit hours)

- DED 075 - Orientation to Teacher Education at KSU **Credits:** 0
- EDCI 200 - Teaching as a Career **Credits:** 1
- EDCI 230 - Early Field Experience **Credits:** 1

- EDEL 250 - Health and Movement Education in Elementary Classrooms **Credits:** 2
- EDEL 310 - Foundations of Education **Credits:** 3
- ~~HDFS 110 - Introduction to Human Development **Credits:** 3~~

## Professional Component - Admission to Teacher Education is required (~~47~~ credit hours)

Students receiving a grade of less than a C in a Block A course will not be permitted to proceed to Block B until a grade of C or higher is recorded (i.e., must retake the Block A course first).

Students receiving a grade of less than C in a Block B course or practicum will not be permitted to proceed to Block C until a grade of C or higher is recorded.

Students receiving a grade of less than C in a Block C course will not be permitted to proceed to the professional semester until a grade of C or higher is recorded.

### *Block A (10 credit hours)*

Must be taken concurrently and prior to Block B.

- EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
- EDCEP 315 - Educational Psychology **Credits:** 3
- ~~EDEL~~ 320 - Core Teaching Skills ~~and Lab~~ **Credits:** 3
- EDSP 324 - Exceptional Child in the Regular Classroom **Credits:** 3

### *Block B (~~11~~ credit hours)*

Must be taken concurrently and prior to Block C.

- EDEL 410 - Block B Practicum: K-6 **Credits:** ~~1~~
- EDEL 411 - Teaching Literacy: K-2 **Credits:** 3
- EDEL 412 - Teaching Science: K-6 **Credits:** 3
- EDEL 413 - Classroom Assessment: K-6 **Credits:** 1
- EDEL 414 - Teaching Culturally and Linguistically Diverse Learners **Credits:** 3

- EDEL 250 - Health and Movement Education in Elementary Classrooms **Credits:** 2
- EDCI 310 - Foundations of Education **Credits:** 3
- EDCI 400 - New Literacies in Contemporary Classrooms **Credits:** 3

## Professional Component - Admission to Teacher Education is required (46 credit hours)

Students receiving a grade of less than a C in a Block A course will not be permitted to proceed to Block B until a grade of C or higher is recorded (i.e., must retake the Block A course first).

Students receiving a grade of less than C in a Block B course or practicum will not be permitted to proceed to Block C until a grade of C or higher is recorded.

Students receiving a grade of less than C in a Block C course will not be permitted to proceed to the professional semester until a grade of C or higher is recorded.

### *Block A (10 credit hours)*

Must be taken concurrently and prior to Block B.

- EDCI 318 - Educational Technology for Teaching and Learning **Credits:** 1
- EDCEP 315 - Educational Psychology **Credits:** 3
- EDCI 320 - Core Teaching Skills **Credits:** 3
- EDSP 324 - Exceptional Child in the Regular Classroom **Credits:** 3

### *Block B (12 credit hours)*

Must be taken concurrently and prior to Block C.

- EDEL 410 - Block B Practicum: K-6 **Credits:** 2
- EDEL 411 - Teaching Literacy: K-2 **Credits:** 3
- EDEL 412 - Teaching Science: K-6 **Credits:** 3
- EDEL 413 - Classroom Assessment: K-6 **Credits:** 1
- EDEL 414 - Teaching Culturally and Linguistically Diverse Learners **Credits:** 3

### *Block C (~~11~~ credit hours)*

Must be taken concurrently and prior to the Professional Semester.

- EDEL 460 - Block C Practicum: K-6 **Credits:** ~~1~~
- EDEL 461 - Teaching Literacy: Grades 3-6 **Credits:** 3
- EDEL 462 - Teaching Social Studies: K-6 **Credits:** 3
- EDEL 463 - Teaching Mathematics: K-6 **Credits:** 3
- EDEL 464 - Classroom Management and Discipline: K-6 **Credits:** 1

### *Professional Semester (~~15~~ credit hours)*

A 3.0 or higher GPA in Teacher Education courses and practica is needed before the Professional Semester.

- EDEL 585 - Teaching Internship in Elementary Schools **Credits:** 1-15

## Area of Concentration

Requirement: 15 credit hours in one area in addition to general education requirements. One of the following areas must be selected:

- English
- English as a Second Language
- Mathematics
- Modern Languages
- Science
- Social Science
- Special Education

### *Block C (12 credit hours)*

Must be taken concurrently and prior to the Professional Semester.

- EDEL 460 - Block C Practicum: K-6 **Credits:** 2
- EDEL 461 - Teaching Literacy: Grades 3-6 **Credits:** 3
- EDEL 462 - Teaching Social Studies: K-6 **Credits:** 3
- EDEL 463 - Teaching Mathematics: K-6 **Credits:** 3
- EDEL 464 - Classroom Management and Discipline: K-6 **Credits:** 1

### *Professional Semester (12 credit hours)*

A 3.0 or higher GPA in Teacher Education courses and practica is needed before the Professional Semester.

- EDEL 585 - Teaching Internship in Elementary Schools **Credits:** 12

## Area of Concentration

Requirement: 15 credit hours in one area in addition to general education requirements. One of the following areas must be selected:

- English
- English as a Second Language
- Mathematics
- Modern Languages
- Science
- Social Science
- Special Education
- K-12 Online Teaching Undergraduate Certificate (This certificate requires 12 hours. Students selecting this option will have 3 additional elective hours available.)
- Open Option (15 credit hours to be selected in consultation with an advisor. Students are encouraged to select coursework leading to a minor, certificate, or additional teaching interests.)

| | |
|---|---|
| Total credit hours required for graduation ~~(125-126)~~ | **Total credit hours required for graduation (120)** |

**Rationale:** The proposal brings the degree into compliance with the KBOR 120-hour mandate and makes updates and revisions.

## Engineering

### Biomedical Engineering (BME) (B.S.)

**Rationale:** The Kansas Board of Regents has requested that the Kansas State University College of Engineering reduce, where possible, the total credit hours required to obtain a given undergraduate degree offered by the College. The proposed curriculum adjustment for the KSU undergraduate degree in Biomedical Engineering reduces the total credit hours for the program from 133 hours to 129 hours. This is accomplished via (a) the removal of one 3-hour Humanities & Social Sciences course and (b) a one-credit-hour reduction in "additional technical electives" as specified for a given emphasis area. This 129-hour curriculum therefore consists of 103 credit hours of required courses plus 26 hours of technical electives.

**Impact (i.e. if this impacts another unit) – Statement should include the date when the head of a unit was contacted, and the response or lack of:** The proposed changes do not significantly impact any individual departmental unit.

| | |
|---|---|
| **Biomedical Engineering (BME) (B.S.)**<br><br>Bachelor's degree requirements<br><br>Freshman year<br><br>Fall semester (17 credit hours) | **Biomedical Engineering (BME) (B.S.)**<br><br>Bachelor's degree requirements<br><br>Freshman year<br><br>Fall semester (17 credit hours) |
| • BME 001 - New Student Assembly **Credits**: (0)<br>• BME 200 - Intro to Biomedical Engg **Credits**: (3)<br>• CHM 210 - Chemistry I **Credits**: (4)<br>• *ENGL 100 - Expository Writing I **Credits**: (3)<br>• MATH 220 - Analytic Geometry and Calculus I **Credits**: (4)<br>• KIN 110 - Intro to Public Health **Credits**: (3)<br>or | • BME 001 - New Student Assembly **Credits**: (0)<br>• BME 200 - Intro to Biomedical Engg **Credits**: (3)<br>• CHM 210 - Chemistry I **Credits**: (4)<br>• *ENGL 100 - Expository Writing I **Credits**: (3)<br>• MATH 220 - Analytic Geometry and Calculus I **Credits**: (4)<br>• KIN 110 - Intro to Public Health **Credits**: (3)<br>or |

| | |
|---|---|
| ECON 110 - Principles of Macroeconomics **Credits:** (3)<br><br>Spring semester (16 credit hours) | ECON 110 - Principles of Macroeconomics **Credits:** (3)<br><br>Spring semester (16 credit hours) |
| • MATH 221 - Analytic Geometry and Calculus II **Credits:** (4)<br>• PHYS 213 - Engineering Physics I **Credits:** (5)<br>• CHM 230 - Chemistry II **Credits:** (4)<br>• Technical Electives **Credits:** (3) | • MATH 221 - Analytic Geometry and Calculus II **Credits:** (4)<br>• PHYS 213 - Engineering Physics I **Credits:** (5)<br>• CHM 230 - Chemistry II **Credits:** (4)<br>• Technical Electives **Credits:** (3) |
| Sophomore year | Sophomore year |
| Fall semester (17 credit hours) | Fall semester (17 credit hours) |
| • COMM 105 - Public Speaking IA **Credits:** (2)<br>• MATH 240 - Elementary Differential Equations **Credits:** (4)<br>• PHYS 214 - Engineering Physics II **Credits:** (5)<br>• Technical Electives **Credits:** (6)<br>• | • COMM 105 - Public Speaking IA **Credits:** (2)<br>• MATH 240 - Elementary Differential Equations **Credits:** (4)<br>• PHYS 214 - Engineering Physics II **Credits:** (5)<br>• Technical Electives **Credits:** (6)<br>• |
| Spring semester (18 credit hours) | Spring semester (18 credit hours) |
| • BIOL 198 – Principles of Biology **Credits**:(4)<br>• MATH 222 - Analytic Geometry and Calculus III **Credits:** (4)<br>• CIS 200 - Programming Fundamentals **Credits:** (4) | • BIOL 198 – Principles of Biology **Credits**:(4)<br>• MATH 222 - Analytic Geometry and Calculus III **Credits:** (4)<br>• CIS 200 - Programming Fundamentals **Credits:** (4) |

- STAT 510 - Introductory Probability and Statistics I **Credits:** (3)
- Technical Electives **Credits:** (3)

## Junior year

### Fall semester (15 credit hours)

- BIOL 340 – Structure and Function of the Human Body **Credits**: (8)
- BME 430 – Biomaterials **Credits**: (3)
- ECE 540 - Applied Scientific Computing for Engineers **Credits:** (3)
- BME 490 – Undergraduate BME Design Experience I **Credits**: (1)

### Spring semester (17 credit hours)

- CHM 531 – Organic Chemistry I **Credits**: (3)
- ECE 512 - Linear Systems **Credits:** (3)
- BME 451 – Biomechanics **Credits**: (3)
- ENGL 415 - Written Communication for Engineers **Credits:** (3)
- BME 491 – Undergraduate BME Design Experience II **Credits**: (2)
- Technical Electives **Credits:** (3)

## Senior year


- STAT 510 - Introductory Probability and Statistics I **Credits:** (3)
- Technical Electives **Credits:** (3)

## Junior year

### Fall semester (15 credit hours)

- BIOL 340 – Structure and Function of the Human Body **Credits**: (8)
- BME 430 – Biomaterials **Credits**: (3)
- ECE 540 - Applied Scientific Computing for Engineers **Credits:** (3)
- BME 490 – Undergraduate BME Design Experience I **Credits**: (1)

### Spring semester (17 credit hours)

- CHM 531 – Organic Chemistry I **Credits**: (3)
- ECE 512 - Linear Systems **Credits:** (3)
- BME 451 – Biomechanics **Credits**: (3)
- ENGL 415 - Written Communication for Engineers **Credits:** (3)
- BME 491 – Undergraduate BME Design Experience II **Credits**: (2)
- Technical Electives **Credits:** (3)

## Senior year

| | |
|---|---|
| Fall semester (~~18~~ credit hours)<br><br>• ECE 772 – Theory and Techniques of Bioinstrumentation **Credits**: (2)<br>• ECE 773 – Bioinstrumentation Design Laboratory **Credits**: (1)<br>• ECE 590 - Senior Design Experience I **Credits:** (3)<br>• ***Technical Electives **Credits:** (9)<br>• ~~**Humanities/Social Science Elective **Credits:** (3)~~<br><br>Spring semester (~~15~~ credit hours)<br><br>• BME 674 – Medical Imaging **Credits**: (3)<br>• BME 575 – Clinical Systems Engineering **Credits**: (3)<br>• ECE 591 - Senior Design Experience II **Credits:** (3)<br>• ***Technical electives **Credits**: (~~3~~)<br>• **Humanities/Social Science Elective **Credits:** (3)<br><br>Notes<br><br>*Students must complete the appropriate prerequisite credits for ENGL 415, but may apply only 3 credit hours of ENGL 415 prerequisite credits towards degree requirements.<br><br>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 | Fall semester (15 credit hours)<br><br>• ECE 772 – Theory and Techniques of Bioinstrumentation **Credits**: (2)<br>• ECE 773 – Bioinstrumentation Design Laboratory **Credits**: (1)<br>• ECE 590 - Senior Design Experience I **Credits:** (3)<br>• ***Technical Electives **Credits:** (9)<br><br>Spring semester (14 credit hours)<br><br>• BME 674 – Medical Imaging **Credits**: (3)<br>• BME 575 – Clinical Systems Engineering **Credits**: (3)<br>• ECE 591 - Senior Design Experience II **Credits:** (3)<br>• ***Technical electives **Credits**: (2)<br>• **Humanities/Social Science Elective **Credits:** (3)<br><br>Notes<br><br>*Students must complete the appropriate prerequisite credits for ENGL 415, but may apply only 3 credit hours of ENGL 415 prerequisite credits towards degree requirements.<br><br>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.<br><br>**Humanities and Social Science electives are to be selected from the list of courses approved by the College of Engineering. Students should select these courses as needed to complete the requirements of the K-State 8 General Education program.<br><br>***Technical electives must be selected from the list of accepted courses.<br><br>***** No more than twelve (12) credit hours of courses in electrical engineering, computer engineering, or biomedical engineering may be transferred to Kansas State University for credit toward a bachelor's degree in biomedical 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 transferred must be taken from ABET accredited programs: ECE 210, ECE 241, ECE 410, ECE 511, ECE 512, ECE 519, ECE 590/591, ECE 772, BME 200, BME 430, BME 490/491, ~~BME 551~~, BME 575, and BME 674.<br><br>Students participating in exchange programs or transferring in from outside the United States may request waivers of this policy. Waivers must be obtained in advance of the exchange semester.<br><br>## NOTE: K-State 8 General Education Requirements<br><br>**IMPORTANT NOTE: Students must meet the requirements of the K-State 8 General Education Program.** | 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.<br><br>**Humanities and Social Science electives are to be selected from the list of courses approved by the College of Engineering. Students should select these courses as needed to complete the requirements of the K-State 8 General Education program.<br><br>***Technical electives must be selected from the list of accepted courses.<br><br>***** No more than twelve (12) credit hours of courses in electrical engineering, computer engineering, or biomedical engineering may be transferred to Kansas State University for credit toward a bachelor's degree in biomedical 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 transferred must be taken from ABET accredited programs: ECE 210, ECE 241, ECE 410, ECE 511, ECE 512, ECE 519, ECE 590/591, ECE 772, BME 200, BME 430, BME 451, BME 490/491, BME 575, and BME 674.<br><br>Students participating in exchange programs or transferring in from outside the United States may request waivers of this policy. Waivers must be obtained in advance of the exchange semester.<br><br>## NOTE: K-State 8 General Education Requirements<br><br>**IMPORTANT NOTE: Students must meet the requirements of the K-State 8 General Education Program.** |

| | |
|---|---|
| Total credit hours required for graduation (133) | Total credit hours required for graduation (129) |

## Computer Science (B.S.)

**Rationale:** The way ENGL 516 is currently being taught, ENGL 415 is more appropriate for most of our students; however, for students planning to pursue a graduate degree in Computer Science, ENGL 516 is more appropriate. We would therefore like to give them the opportunity to choose the course that best fits their needs. Also some of our recent graduates have suggested that various other MATH courses might be as appropriate as MATH 551. Others have suggested that some of the natural science requirements might be replaced by mathematics. Our accreditation criteria require:

> One year of science and mathematics:
>
> 1. Mathematics: At least one half year that must include discrete mathematics. The additional mathematics might consist of courses in areas such as calculus, linear algebra, numerical methods, probability, statistics, number theory, geometry, or symbolic logic.
>
> 2. Science: A science component that develops an understanding of the scientific method and provides students with an opportunity to experience this mode of inquiry in courses for science or engineering majors that provide some exposure to laboratory work.

We are therefore proposing to give students more flexibility in their math and science courses by renaming our natural science electives as "math/science electives", and replacing MATH 551 with three additional hours of math/science electives. We will continue to maintain internally a list of approved courses. In particular, we will continue to require one of four 2-semester lab science sequences (BIOL 198 and 201, CHM 210 and 230, PHYS 213 and 214, or PHYS 223 and 224) to ensure that students take lab courses for science majors. We will also require that at least one of these electives be an appropriate MATH course (to complete the half year of mathematics), and that the remaining math/science electives be chosen from a list of natural science courses for science or engineering majors. Note that the above curriculum still requires 14 hours of specific mathematics courses that include discrete mathematics (MATH 220, MATH 221, MATH 510, and STAT 510). Finally, we are removing 4 hours of unrestricted electives to bring the total number of credit hours to 120. (The change in title to CIS 308 reflects a recently-approved expedited course change.)

**Impact:** The following departments outside the College of Engineering will potentially have enrollments in some of their courses impacted by these changes:

- English: Prof. Karin Westman was contacted by email on 1/25/2018.

- Mathematics: Prof. Andrew Bennett was contacted by email on 1/25/2018.
- Biology: Prof. Brian Spooner was contacted by email on 1/26/2018.
- Chemistry: Prof. Daniel Higgins was contacted by email on 1/26/2018.
- Physics: Prof. Brett DePaola was contacted by email on 1/26/2018.
- Statistics: Prof. Gary Gadbury was contacted by email on 1/26/2018. The message was forwarded to Prof. Jim Neill the same day.
- Biochemistry and Molecular Biophysics: Prof. Phillip Klebba was contacted by email on 1/26/2018.
- Geology: Prof. Pamela Kempton was contacted by email on 1/26/2018.

**Effective:** ~~Fall 2018~~ Spring 2019

http://catalog.k-state.edu/preview_program.php?catoid=40&poid=13068

| **From:** | **To:** |
|---|---|
| **Bachelor's degree requirements** | **Bachelor's degree requirements** |
| **Freshman year** | **Freshman year** |
| *Fall semester (15-16 credit hours)* | *Fall semester (15-16 credit hours)* |
| • Humanities/social science elective (first of five) **Credits:** 3<br>• CIS 015 - Undergraduate Seminar **Credits:** 0<br>• CIS 115 - Introduction to Computing Science **Credits:** 3<br>• COMM 105 - Public Speaking IA **Credits:** 2<br>• or<br>• COMM 106 - Public Speaking I **Credits:** 3<br>• ENGL 100 - Expository Writing I **Credits:** 3<br>• MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 | • Humanities/social science elective (first of five) **Credits:** 3<br>• CIS 015 - Undergraduate Seminar **Credits:** 0<br>• CIS 115 - Introduction to Computing Science **Credits:** 3<br>• COMM 105 - Public Speaking IA **Credits:** 2<br>• or<br>• COMM 106 - Public Speaking I **Credits:** 3<br>• ENGL 100 - Expository Writing I **Credits:** 3<br>• MATH 220 - Analytic Geometry and Calculus I **Credits:** 4 |

### *Spring semester (15 credit hours)*

- ~~Natural~~ science elective with laboratory (first of ~~four~~) **Credits:** 4
- CIS 200 – Programming Fundamentals **Credits:** 4
- ECE 241 – Introduction to Computer Engineering **Credits:** 3
- MATH 221 – Analytic Geometry and Calculus II **Credits:** 4

## Sophomore year

### *Fall semester (15 credit hours)*

- Humanities/social science elective (second of five) **Credits:** 3
- CIS 300 – Data and Program Structures **Credits:** 3
- CIS 301 – Logical Foundations of Programming **Credits:** 3
- ECON 110 – Principles of Macroeconomics **Credits:** 3
- ENGL 200 – Expository Writing II **Credits:** 3

### *Spring semester (~~16~~ credit hours)*

- Humanities/social science elective (third of five) **Credits:** 3
- ~~Natural~~ science elective (second of ~~four~~) **Credits:** 3
- *Communication elective **Credits:** 3
- ~~CIS 308 – C/C++ Language Laboratory **Credits:** 1~~
- CIS 501 – Software Architecture and Design **Credits:** 3
- MATH 510 – Discrete Mathematics **Credits:** 3

### *Spring semester (15 credit hours)*

- Math/science elective with laboratory (first of five) **Credits:** 4
- CIS 200 – Programming Fundamentals **Credits:** 4
- ECE 241 – Introduction to Computer Engineering **Credits:** 3
- MATH 221 – Analytic Geometry and Calculus II **Credits:** 4

## Sophomore year

### *Fall semester (15 credit hours)*

- Humanities/social science elective (second of five) **Credits:** 3
- CIS 300 – Data and Program Structures **Credits:** 3
- CIS 301 – Logical Foundations of Programming **Credits:** 3
- ECON 110 – Principles of Macroeconomics **Credits:** 3
- ENGL 200 – Expository Writing II **Credits:** 3

### *Spring semester (15 credit hours)*

- Humanities/social science elective (third of five) **Credits:** 3
- Math/science elective (second of five) **Credits:** 3
- *Communication elective **Credits:** 3
- CIS 501 – Software Architecture and Design **Credits:** 3
- MATH 510 – Discrete Mathematics **Credits:** 3

## Junior year

### *Fall semester (~~16~~ credit hours)*

- Humanities/social science elective (fourth of five) **Credits:** 3
- ~~Natural~~ science elective (third of ~~four~~) **Credits:** ~~3~~
- Unrestricted elective **Credits:** ~~6~~
- CIS 415 – Ethics and Computing Technology **Credits:** 1
- CIS 560 – Database System Concepts **Credits:** 3

### *Spring semester (15 credit hours)*

- Unrestricted elective **Credits:** 3
- CIS 450 – Computer Architecture and Operations **Credits:** 3
- CIS 575 – Introduction to Algorithm Analysis **Credits:** 3
- ENGL 516 – Written Communication for the Sciences **Credits:** 3
- STAT 510 – Introductory Probability and Statistics I **Credits:** 3

## Senior year

### *Fall semester (~~15–16~~ credit hours)*

- Technical elective (first and second of four) **Credits:** 6
- CIS 505 – Introduction to Programming Languages **Credits:** 3
- Unrestricted elective **Credits:** ~~3–4~~

## Junior year

### *Fall semester (15 credit hours)*

- Humanities/social science elective (fourth of five) **Credits:** 3
- Math/science elective with laboratory (third of five) **Credits:** 4
- Unrestricted elective **Credits:** 3
- CIS 308 – C Language Laboratory **Credits:** 1
- CIS 415 – Ethics and Computing Technology **Credits:** 1
- CIS 560 – Database System Concepts **Credits:** 3

### *Spring semester (15 credit hours)*

- Unrestricted elective **Credits:** 3
- CIS 450 – Computer Architecture and Operations **Credits:** 3
- CIS 575 – Introduction to Algorithm Analysis **Credits:** 3
- ENGL 415 – Written Communication for Engineers **Credits:** 3
- or
- ENGL 516 – Written Communication for the Sciences **Credits:** 3
- STAT 510 – Introductory Probability and Statistics I **Credits:** 3

## Senior year

### *Fall semester (14–15 credit hours)*

- Technical elective (first and second of four) **Credits:** 6
- CIS 505 – Introduction to Programming Languages **Credits:** 3

- ~~MATH 551 – Applied Matrix Theory~~ **Credits:** 3

### *Spring semester (~~16~~ credit hours)*

- Technical elective (third and fourth of four) **Credits:** 6
- ~~Natural~~ science elective ~~with laboratory~~ (~~fourth of four~~) **Credits:** ~~4~~
- Unrestricted elective **Credits:** 3
- Humanities/social science elective (fifth of five) **Credits:** 3

## Notes

A grade of C or better is required for all graded courses listed by specific course number above.

All students new to the CS department must complete CIS 015.

~~Natural science courses~~ must have departmental approval.

Humanities/social science electives must be taken from the list approved by the College of Engineering.

*Communications Elective **Credits:** (3) The Communications Elective must be chosen from:

- COMM 322 – Interpersonal Communication **Credits:** 3
- COMM 326 – Small Group Discussion Methods **Credits:** 3
- MANGT 420 – Principles of Management **Credits:** 3
- THTRE 261 – Fundamentals of Acting **Credits:** 3
- THTRE 265 – Fundamentals of Improvisation I, II **Credits:** 3

- Unrestricted elective **Credits:** 2–3
- Math/science elective (fourth of five) **Credits:** 3

### *Spring semester (15 credit hours)*

- Technical elective (third and fourth of four) **Credits:** 6
- Math/science elective (fifth of five) **Credits:** 3
- Unrestricted elective **Credits:** 3
- Humanities/social science elective (fifth of five) **Credits:** 3

## Notes

A grade of C or better is required for all graded courses listed by specific course number above.

All students new to the CS department must complete CIS 015.

Math/science electives must have departmental approval.

Humanities/social science electives must be taken from the list approved by the College of Engineering.

*Communications Elective **Credits:** (3) The Communications Elective must be chosen from:

- COMM 322 – Interpersonal Communication **Credits:** 3
- COMM 326 – Small Group Discussion Methods **Credits:** 3
- MANGT 420 – Principles of Management **Credits:** 3
- THTRE 261 – Fundamentals of Acting **Credits:** 3
- THTRE 265 – Fundamentals of Improvisation I, II **Credits:** 3

| Technical electives must be comprised of the following: | Technical electives must be comprised of the following: |
| --- | --- |
| • C or better in either CIS 520–Operating Systems I or CIS 625–Concurrent Software Systems.<br>• A capstone experience consisting of a C or better in either CIS 598–Computer Science Project or the two-semester course consisting of CIS 642–Software Engineering Project I and CIS 643–Software Engineering Project II.<br>• Additional 500-level or higher CIS courses or other approved computing-related courses to bring the total number of technical elective credits to 12. | • C or better in either CIS 520–Operating Systems I or CIS 625–Concurrent Software Systems.<br>• A capstone experience consisting of a C or better in either CIS 598–Computer Science Project or the two-semester course consisting of CIS 642–Software Engineering Project I and CIS 643–Software Engineering Project II.<br>• Additional 500-level or higher CIS courses or other approved computing-related courses to bring the total number of technical elective credits to 12. |
| **NOTE: K-State 8 General Education Requirements**<br>For additional information about the University General Education program, check the requirements specified by the College of Engineering. | **NOTE: K-State 8 General Education Requirements**<br>For additional information about the University General Education program, check the requirements specified by the College of Engineering. |
| **Total hours required for graduation (~~124~~ credit hours)** | **Total hours required for graduation (120 credit hours)** |

The following can be found in the additional file in Curriculog:

## Math / Sciences Electives

- A total of 17 credit hours selected from courses listed below
- One of the following two-course sequences must be included:
    - BIOL 198 Principles of Biology and BIOL 201 Organismic Biology
    - CHM 210 Chemistry I and CHM 230 Chemistry II
    - PHYS 213 Engineering Physics I and PHYS 214 Engineering Physics II

    - PHYS 223 Physics I, Mechanics and Thermodynamics, and PHYS 224 Physics II, Electromagnetism and Sound
- At least one of the following mathematics courses must be included:
    - MATH 222 Analytic Geometry and Calculus III
    - MATH 340 Elementary Differential Equations
    - MATH 506 Introduction to Number Theory
    - MATH 511 Introduction to Algebraic Systems
    - MATH 512 Introduction to Modern Algebra
    - MATH 515 Introduction to Linear Algebra
    - MATH 551 Applied Matrix Theory
    - MATH 572 Foundations of Geometry
    - MATH 633 Advanced Calculus I
    - STAT 511 Introductory Probability and Statistics II
- Any remaining must come from the following science courses:
    - BIOCH 265 Introductory Organic and Biochemistry
    - BIOCH 521 General Biochemistry
    - BIOL 198 Principles of Biology
    - BIOL 201 Organismic Biology
    - BIOL 450 Modern Genetics
    - BIOL 455 General Microbiology
    - CHM 210 Chemistry I
    - CHM 230 Chemistry II
    - One of CHM 350 General Organic Chemistry or CHM 531 Organic Chemistry I
    - CHM 371 Chemical Analysis
    - CHM 550 Organic Chemistry II
    - GEOL 100 Earth in Action
    - GEOL 102 Earth Through Time
    - GEOL 103 Geology Laboratory
    - GEOL 502 Mineralogy
    - One of PHYS 113 General Physics I, PHYS 213 Engineering Physics I, or PHYS 223 Physics I, Mechanics, and Thermodynamics
    - One of PHYS 114 General Physics II, PHYS 214 Engineering Physics II, or PHYS 224 Physics II, Electromagnetism, and Sound
    - PHYS 325 Physics III, Relativity, and Quantum Physics

# Industrial Engineering (IE) (B.S.)

**Rationale:** Four main changes are listed: 1. In light the regent requirement to drop the total number of credit hours for graduation, we propose to drop one of the humanity or social science courses. Currently the BS IE program listed three H & SS courses. This proposal will drop the listing in the first semester freshmen year. Then COMM105 is moved from the second semester to the first semester freshman year. The total number of credit hours for graduation is dropped to 124. 2. Econ 120 can be used to substitute for Econ 110. 3. LEAD 350 can be used to substitute for MANGT 420 and 4. the list for engineering elective is revised.

**Impact (i.e. if this impacts another unit):** We have emailed various H&SS departments about the dropping and the LEAD program about the inclusion of LEAD 360.

http://catalog.k-state.edu/preview_program.php?catoid=40&poid=13066&returnto=7025

| **FROM** | | **To:** | |
|---|---|---|---|
| **FRESHMAN First Semester Courses** | **HRS** | **FRESHMAN First Semester Courses** | **HRS** |
| IMSE 201 Introduction to Industrial Engineering | 3 | IMSE 201 Introduction to Industrial Engineering | 3 |
| MATH 220 Anal. Geom. & Calc I | 4 | MATH 220 Anal. Geom. & Calc I | 4 |
| CHM 210 Chemistry I | 4 | CHM 210 Chemistry I | 4 |
| ENGL 100 Expository Writing I* | 3 | ENGL 100 Expository Writing I* | 3 |
| ~~Humanities or Social Science~~ | 3 | COMM 105 Public Speaking 1A | 2 |
| IMSE 015 Engineering Assembly | 0 | IMSE 015 Engineering Assembly | 0 |
| **TOTAL** | ~~17~~ | **TOTAL** | **16** |
| **FRESHMAN Second Semester Courses** | **HRS** | **FRESHMAN Second Semester Courses** | **HRS** |
| IMSE 250 Intro. to Manufacturing Processes | 2 | IMSE 250 Intro. to Manufacturing Processes | 2 |
| IMSE 251 Intro. to Manufacturing Processes Lab | 1 | IMSE 251 Intro. to Manufacturing Processes Lab | 1 |
| MATH 221 Anal. Geom. & Calc. II | 4 | MATH 221 Anal. Geom. & Calc. II | 4 |
| ECON 120 Principles of Macroeconomics | 3 | ECON 110 (or 120) Principles of Macroeconomics (Microeconomics) | 3 |
| Humanities or Social Science | 3 | Humanities or Social Science | 3 |
| ME 212 Engineering Graphics | 2 | ME 212 Engineering Graphics | 2 |
| ~~COMM 105 Public Speaking 1A~~ | 2 | IMSE 015 Engineering Assembly | 0 |
| IMSE 015 Engineering Assembly | 0 | **TOTAL** | **15** |
| **TOTAL** | ~~17~~ | | |
| **SOPHOMORE First Semester Courses** | **HRS** | **SOPHOMORE First Semester Courses** | **HRS** |
| MATH 222 Anal. Geom. & Calc. III | 4 | MATH 222 Anal. Geom. & Calc. III | 4 |
| STAT 510 Introduction to Probability & Statistics I | 3 | STAT 510 Introduction to Probability & Statistics I | 3 |
| PHYS 213 Engineering Physics I | 5 | PHYS 213 Engineering Physics I | 5 |
| ACCTG 231 Accounting for Business Operations | 3 | ACCTG 231 Accounting for Business Operations | 3 |
| IMSE 015 Engineering Assembly | 0 | IMSE 015 Engineering Assembly | 0 |
| **TOTAL** | **15** | **TOTAL** | **15** |
| **SOPHOMORE Second Semester Courses** | **HRS** | **SOPHOMORE Second Semester Courses** | **HRS** |
| MATH 551 Applied Matrix Theory | 3 | MATH 551 Applied Matrix Theory | 3 |
| STAT 511 Introduction to Probability & Statistics II | 3 | STAT 511 Introduction to Probability & Statistics II | 3 |
| PHYS 214 Engineering Physics II | 5 | PHYS 214 Engineering Physics II | 5 |
| IMSE 530 Engineering Economic Analysis | 2 | IMSE 530 Engineering Economic Analysis | 2 |
| IMSE 532 Industrial Project Evaluation | 1 | IMSE 532 Industrial Project Evaluation | 1 |
| Humanity or Social Science | 3 | Humanity or Social Science | 3 |
| IMSE 015 Engineering Assembly | 0 | IMSE 015 Engineering Assembly | 0 |
| **TOTAL** | **17** | **TOTAL** | **17** |
| **JUNIOR First Semester Courses** | **HRS** | **JUNIOR First Semester Courses** | **HRS** |
| IMSE 560 Operations Research I | 3 | IMSE 560 Operations Research I | 3 |
| IMSE 541 Statistical Quality Control | 3 | IMSE 541 Statistical Quality Control | 3 |
| IMSE 623 Industrial Ergonomics | 3 | IMSE 623 Industrial Ergonomics | 3 |
| Computer Programming Elective | 3 | Computer Programming Elective | 3 |
| Engineering Elective | 3 | Engineering Elective | 3 |
| IMSE 015 Engineering Assembly | 0 | IMSE 015 Engineering Assembly | 0 |
| **TOTAL** | **15** | **TOTAL** | **15** |
| **JUNIOR Second Semester Courses** | **HRS** | **JUNIOR Second Semester Courses** | **HRS** |
| IMSE 660 Operations Research II | 3 | IMSE 660 Operations Research II | 3 |
| IMSE 555 Industrial Facility Layout and Design | 3 | IMSE 555 Industrial Facility Layout and Design | 3 |
| MNGT 420 Management Concepts | 3 | | 3 |

| | | | | | |
|---|---|---|---|---|---|
| | Engineering Elective | 3 | | MNGT 420 Management Concepts or LEAD 350 Culture and Context in Leadership | 3 |
| ENGL | 415 Written Communication for Engineers | 3 | | Engineering Elective | 3 |
| IMSE | 050 Industrial Plant Studies | 0 | ENGL | 415 Written Communication for Engineers | 0 |
| IMSE | 015 Engineering Assembly | 0 | IMSE | 050 Industrial Plant Studies | 0 |
| **TOTAL** | | **15** | IMSE | 015 Engineering Assembly | **15** |
| | | | **TOTAL** | | |
| **SENIOR Second Semester Courses** | | **HRS** | **SENIOR Second Semester Courses** | | **HRS** |
| IMSE | 580 Manufacturing System Design & Analysis | 4 | IMSE | 580 Manufacturing System Design & Analysis | 4 |
| IMSE | 685 Manufacturing Information Systems | 3 | IMSE | 685 Manufacturing Information Systems | 3 |
| | IMSE Elective | 3 | | IMSE Elective | 3 |
| | Professional Elective | 3 | | Professional Elective | 3 |
| | Professional Elective | 3 | | Professional Elective | 3 |
| IMSE | 015 Engineering Assembly | 0 | IMSE | 015 Engineering Assembly | 0 |
| **TOTAL** | | **16** | **TOTAL** | | **16** |
| Number of Hours Required for Graduation is | | **127** | Number of Hours Required for Graduation is | | **124** |

**IMSE CURRICULUM NOTES:**

**Computer Programming Elective:** The computer programming elective consists of 3 hours taken from CIS 200, CIS 209 or ME 400.

**Engineering Electives:** The 9 hours of basic engineering credit may not include more than 6 hours from a single department and the 9 hours must be selected from the following courses. Note, a student planning to take the FE exam is advised to take their 9 hours from classes with an *.

BAE 345; CE 333, 530* (at most one of 333 and 530) and 533; CHE ~~350,~~ 354*, 355*, 356*, 520 and 521; ECE 410, 511, 519* and 571; ME 512*, 513, 571 ~~and 573~~.

**Professional Electives:** The 9 credit hours of professional electives are designed so that the student may specialize in an area of interest. Any of the following classes may count toward the professional elective requirement. Any IMSE class; any engineering class above 300 level; any CIS class above 200 level; MATH 240 and any Mathematics class above 500 level except MATH 570 and 591; any Statistics class above 500 level except STAT 702, 703, 706 and 710; BIOL 198, BIOL 201, CHEM 230; FINAN 450, 510, 520, 520, 643, and 654; ACCTG 241, 331, 342 and 433; ECON 510, 520, 530, and 540; AGEC 680, 750.

**IMSE Electives:** The IMSE electives must be selected from the IMSE department. Each class must also be at least 3 credit hours.

**Substitutions:** ECON 110 can substitute for ECON 120. IMSE 501 can substitute for MGMT 420; IMSE 591 and IMSE 592 can substitute for IMSE 580. Concurrent or prerequisite requirement for IMSE 591 is 24 credit hours of IMSE courses.

**Humanities and Social Science electives**: H&SS are to be selected from the college of engineering H&SS list.

K-State 8: The courses required from a BSIE degree satisfy five of the K-State 8 areas. The student must fulfill the aesthetic experience, global perspectives, and historical perspectives tags. Most students will fill these tags with their humanities, social science or

**IMSE CURRICULUM NOTES:**

**Computer Programming Elective:** The computer programming elective consists of 3 hours taken from CIS 200, CIS 209 or ME 400.

**Engineering Electives:** The 9 hours of basic engineering credit may not include more than 6 hours from a single department and the 9 hours must be selected from the following courses. Note, a student planning to take the FE exam is advised to take their 9 hours from classes with an *.

BAE 345; CE 333, 530* (at most one of 333 and 530) and 533; CHE 354*, 355*, 356*, 520 and 521; ECE 410, 511, 519* and 571; ME 512*, 513, 571; IMSE 562.

**Professional Electives:** The 9 credit hours of professional electives are designed so that the student may specialize in an area of interest. Any of the following classes may count toward the professional elective requirement. Any IMSE class; any engineering class above 300 level; any CIS class above 200 level; MATH 240 and any Mathematics class above 500 level except MATH 570 and 591; any Statistics class above 500 level except STAT 702, 703, 706 and 710; BIOL 198, BIOL 201, CHEM 230; FINAN 450, 510, 520, 520, 643, and 654; ACCTG 241, 331, 342 and 433; ECON 510, 520, 530, and 540; AGEC 680, 750.

**IMSE Electives:** The IMSE electives must be selected from the IMSE department. Each class must also be at least 3 credit hours.

**Substitutions:** ECON 120 can substitute for ECON 110. LEAD 350 can substitute for MGMT 420; IMSE 591 and IMSE 592 can substitute for IMSE 580. Concurrent or prerequisite requirement for IMSE 591 is 24 credit hours of IMSE courses.

**Humanities and Social Science electives**: H&SS are to be selected from the college of engineering H&SS list.

K-State 8: The courses required from a BSIE degree satisfy five of the K-State 8 areas. The student must fulfill the aesthetic experience, global perspectives, and historical perspectives tags. Most students will fill

| | | | |
|---|---|---|---|
| professional electives. ECON 110 fulfills the global perspective area. For additional information about the General Education K-State 8 program, check the requirements specified by the College of Engineering.<br><br>**IMSE Graduation Criterion:** At most 6 credit hours of IMSE 500+ courses that earned a D may be applied to a student's B.S.I.E. graduation requirements.<br><br>**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.<br><br>**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.<br>* Prerequisite for ENGL 415 is a "B" or better in ENGL 100. ENGL 200 must be taken if ENGL 100's grade ≤ "C". | | these tags with their humanities, social science or professional electives. ECON 110 fulfills the global perspective area. For additional information about the General Education K-State 8 program, check the requirements specified by the College of Engineering.<br><br>**IMSE Graduation Criterion:** At most 6 credit hours of IMSE 500+ courses that earned a D may be applied to a student's B.S.I.E. graduation requirements.<br><br>**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.<br><br>**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.<br>* Prerequisite for ENGL 415 is a "B" or better in ENGL 100. ENGL 200 must be taken if ENGL 100's grade ≤ "C". | |

## Human Ecology

### Apparel and Textiles B.S.

http://catalog.k-state.edu/preview_program.php?catoid=40&poid=13032&returnto=6983

| CHANGE FROM: | CHANGE TO: |
|---|---|
| **Apparel and Textiles (B.S.)** | **Apparel and Textiles (B.S.)** |
| **General Requirements (41-42 credit hours)** | **General Requirements (41-42 credit hours)** |
| **Communications (8-9 credit hours)** | **Communications (8-9 credit hours)** |
| COMM 105 - Public Speaking IA Credits: (2)<br>or<br>COMM 106 - Public Speaking I Credits: (3)<br>ENGL 100 - Expository Writing I Credits: (3)<br>ENGL 200 - Expository Writing II Credits: (3) | COMM 105 - Public Speaking IA Credits: (2)<br>or<br>COMM 106 - Public Speaking I Credits: (3)<br>ENGL 100 - Expository Writing I Credits: (3)<br>ENGL 200 - Expository Writing II Credits: (3) |
| **Quantitative Studies (7 credit hours)** | **Quantitative Studies (7 credit hours)** |
| CIS 102 - Introduction to Spreadsheet Applications Credits: (1)<br>MATH 100 - College Algebra Credits: (3)<br>STAT 325 - Introduction to Statistics Credits: (3)<br>or<br>STAT 350 - Business and Economic Statistics I Credits: (3) | CIS 102 - Introduction to Spreadsheet Applications Credits: (1)<br>MATH 100 - College Algebra Credits: (3)<br>STAT 325 - Introduction to Statistics Credits: (3)<br>or<br>STAT 350 - Business and Economic Statistics I Credits: (3) |
| **Social Sciences (12 credit hours)** | **Social Sciences (12 credit hours)** |
| ECON 110 - Principles of Macroeconomics Credits: (3)<br>PSYCH 110 - General Psychology Credits: (3)<br>SOCIO 211 - Introduction to Sociology Credits: (3)<br>SOCIO 363 - Global Problems Credits: (3) | ECON 110 - Principles of Macroeconomics Credits: (3)<br>PSYCH 110 - General Psychology Credits: (3)<br>SOCIO 211 - Introduction to Sociology Credits: (3)<br>SOCIO 363 - Global Problems Credits: (3) |
| **Humanities (6 credit hours)**<br>*(Only a course of 3 credits or more will apply.)* | **Humanities (6 credit hours)**<br>*(Only a course of 3 credits or more will apply.)* |
| History elective Credits: (3)<br>Humanities elective Credits: (3) | History elective Credits: (3)<br>Humanities elective Credits: (3) |
| **Natural and Physical Sciences (7 credit hours)** | **Natural and Physical Sciences (7 credit hours)** |
| Science elective Credits: (3)<br>GEOG 221 - Introductory Physical Geography: Credits: (4) | Science elective Credits: (3)<br>GEOG 221 - Introductory Physical Geography: Credits: (4) |
| **Integrative Human Ecology Course (1 credit hour)** | **Integrative Human Ecology Course (1 credit hour)** |
| GNHE 210 – Foundations of Human Ecology Credits: (1) | GNHE 210 – Foundations of Human Ecology Credits: (1) |
| **Professional Studies (74 credit hours)** | **Professional Studies (74 credit hours)** |
| **Apparel and Textiles Core Courses (35 credit hours)** | **Apparel and Textiles Core Courses (35 credit hours)** |
| AT 110 - New Student Seminar Credits: (1)<br>AT 245 - Apparel and Textile Industry Credits: (3)<br>AT 265 - Textiles Credits: (3) | AT 110 - New Student Seminar Credits: (1)<br>AT 245 - Apparel and Textile Industry Credits: (3)<br>AT 265 - Textiles Credits: (3) |

AT 330 - Dress and Human Behavior Credits: (3)
AT 340 - Aesthetics of Apparel and Textiles Credits: (3)
AT 350 – Our Sustainable World: Current Challenges and Future Opportunities Credits: (3)
AT 430 - History of Apparel Fashion: Renaissance to Present Credits: (3)
AT 445 - Professional Development Credits: (3)
AT 460 - Apparel and Textile Evaluation Credits: (3)
AT 600 - Global Apparel and Textiles Supply Chain Management Credits: (3)
AT 550 - Apparel and Textile Internship Credits: (4)
AT 575 - Principles of Forecasting Credits: (3)

**Choose one or both of the specializations in:**

Apparel Design and Production or Apparel Marketing. Consult the Departmental website for advancement criteria for the ADP specialization.

**Specialization in Apparel Design and Production (39 credit hours)**

Advancement to the ADP specialization is selective and based on performance criteria.

ART 180 - 2- Dimensional Design Credits: (3)
ART 190 - Drawing I Credits: (3)
ART 195 - Survey of Art History I Credits: (3)
ART 196 - Survey of Art History II Credits: (3)
ART 200 - 3- Dimensional Design Credits: (3)
AT 300 - Apparel Production I Credits: (3)
AT 400 - Fashion Illustration Credits: (3)
AT 410 - Apparel Production II Credits: (3)
AT 610 - Computer-Aided Design of Apparel Credits: (3)
AT 655 - Apparel Pattern Development I Credits: (3)
AT 670 - Apparel Pre-Production Processes Credits: (3)
AT 695 - Apparel Pattern Development II Credits: (3)

Select one Art History course from the following:

ART 545 - Twentieth Century Art History I Credits: (3)
ART 550 - Twentieth Century Art History II Credits: (3)
ART 602 - Twentieth Century Art History III Credits: (3)
ART 603 - Twentieth Century Art History IV Credits: (3)

**Specialization in Apparel Marketing (39 credit hours)**

ACCTG 231 - Accounting for Business Operations Credits: (3)
AT 325 - Apparel and Textile Retailing Credits: (3)
AT 375 - Computer Technologies for Merchandising Credits: (3)
AT 576 - Principles of Buying Credits: (3)
AT 625 - Apparel and Textiles Business Strategy Credits: (3)
ECON 120 - Principles of Microeconomics Credits: (3)
MANGT 420 - Management Concepts Credits: (3)
MKTG 400 - Introduction to Marketing Credits: (3)
MKTG 450 - Consumer Behavior Credits: (3)

**In addition, select 12 credits from the following:**

AT 330 - Dress and Human Behavior Credits: (3)
AT 340 - Aesthetics of Apparel and Textiles Credits: (3)
AT 350 – Our Sustainable World: Current Challenges and Future Opportunities Credits: (3)
AT 430 - History of Apparel Fashion: Renaissance to Present Credits: (3)
AT 445 - Professional Development Credits: (3)
AT 460 - Apparel and Textile Evaluation Credits: (3)
AT 600 - Global Apparel and Textiles Supply Chain Management Credits: (3)
AT 550 - Apparel and Textile Internship Credits: (4)
AT 575 - Principles of Forecasting Credits: (3)

**Choose one or both of the specializations in:**

Apparel Design and Production or Apparel Marketing. Consult the Departmental website for advancement criteria for the ADP specialization.

**Specialization in Apparel Design and Production (39 credit hours)**

Advancement to the ADP specialization is selective and based on performance criteria.

ART 180 - 2- Dimensional Design Credits: (3)
ART 190 - Drawing I Credits: (3)
ART 195 - Survey of Art History I Credits: (3)
ART 196 - Survey of Art History II Credits: (3)
ART 200 - 3- Dimensional Design Credits: (3)
AT 300 - Apparel Production I Credits: (3)
AT 400 - Fashion Illustration Credits: (3)
AT 410 - Apparel Production II Credits: (3)
AT 610 - Computer-Aided Design of Apparel Credits: (3)
AT 655 - Apparel Pattern Development I Credits: (3)
AT 670 - Apparel Pre-Production Processes Credits: (3)
AT 695 - Apparel Pattern Development II Credits: (3)

Select one Art History course from the following:

ART 545 - Twentieth Century Art History I Credits: (3)
ART 550 - Twentieth Century Art History II Credits: (3)
ART 602 - Twentieth Century Art History III Credits: (3)
ART 603 - Twentieth Century Art History IV Credits: (3)

**Specialization in Apparel Marketing (39 credit hours)**

ACCTG 231 - Accounting for Business Operations Credits: (3)
AT 325 - Apparel and Textile Retailing Credits: (3)
AT 375 - Computer Technologies for Merchandising Credits: (3)
AT 576 - Principles of Buying Credits: (3)
AT 625 - Apparel and Textiles Business Strategy Credits: (3)
ECON 120 - Principles of Microeconomics Credits: (3)
MANGT 420 - Management Concepts Credits: (3)
MKTG 400 - Introduction to Marketing Credits: (3)
MKTG 450 - Consumer Behavior Credits: (3)

**In addition, select 12 credits from the following:**

| | |
|---|---|
| ACCTG 241 - Accounting for Investing and Financing Credits: (3)<br>ECON 520 - Intermediate Microeconomics Credits: (3)<br>FINAN 450 - Principles of Finance Credits:(3)<br>MANGT 520 - Organizational Behavior Credits: (3)<br>MANGT 531 - Human Resources Management Credits: (3)<br>or<br>PSYCH 560 - Industrial Psychology Credits: (3)<br>MC 120 - Principles of Advertising Credits: (3)<br>MC 180 - Fundamentals of Public Relations Credits: (3)<br>MKTG 542 – Fundamentals of Professional Selling Credits: (3)<br>MKTG 544 - International Marketing Credits: (3)<br>MKTG 545 - Marketing Channels Credits: (3)<br>MKTG 635 - Digital Marketing Credits: (3)<br>PSYCH 425 – Judgment and Decision Making Credits: (3)<br>Modern Languages Credits: (3-6)<br>Apparel and Textiles elective Credits: (1-6)<br><br>**Unrestricted electives (~~9-10~~ credit hours)** | ACCTG 241 - Accounting for Investing and Financing Credits: (3)<br>ECON 520 - Intermediate Microeconomics Credits: (3)<br>FINAN 450 - Principles of Finance Credits: (3)<br>MANGT 520 - Organizational Behavior Credits: (3)<br>MANGT 531 - Human Resources Management Credits: (3)<br>or<br>PSYCH 560 - Industrial Psychology Credits: (3)<br>MC 120 - Principles of Advertising Credits: (3)<br>MC 180 - Fundamentals of Public Relations Credits: (3)<br>MKTG 542 – Fundamentals of Professional Selling Credits: (3)<br>MKTG 544 - International Marketing Credits: (3)<br>MKTG 545 - Marketing Channels Credits: (3)<br>MKTG 635 - Digital Marketing Credits: (3)<br>PSYCH 425 – Judgment and Decision Making Credits: (3)<br>Modern Languages Credits: (3-6)<br>Apparel and Textiles elective Credits: (1-6)<br><br>**Unrestricted electives (~~4-5~~ credit hours)** |
| **12~~5~~ Credit Hours Required for Graduation** | **120 Credit Hours Required for Graduation** |

**Rationale:** This change in reduced credit hours is to satisfy a mandate by the Kansas Board of Regents for undergraduate degrees to be a maximum of 120 credit hours

**Impact (i.e. if this impacts another unit) – Statement should include the date when the head of a unit was contacted, and the response or lack of:** None

## Technology & Aviation

http://catalog.k-state.edu/preview_program.php?catoid=40&poid=13199

**CURRENT: Electronic and computer engineering technology option (BETB-EC)**

123 hours required for graduation

**Freshman**

**Fall semester (17 credit hours)**

| | | |
|---|---|---|
| COT 299 | Mastering Academic Conversations | 3 |
| ECET 100 | Basic Electronics | 4 |
| ECET 250 | Digital Logic | 4 |
| ENGL 100 | Expository Writing I | 3 |
| MATH 100 | College Algebra | 3 |

**Spring semester (16 credit hours)**

| | | |
|---|---|---|
| CHM 110 | General Chemistry | 3 |
| CHM 111 | General Chemistry Lab | 1 |
| CMST 250 | Hardware and Network Fundamentals | 3 |
| COMM 106 | Public Speaking I | 3 |
| ECET 101 | Direct Current Circuits | 3 |
| MATH 150 | Plane Trigonometry | 3 |

**Sophomore**

**Fall semester (16 credit hours)**

| | | |
|---|---|---|
| ECET 110 | Semiconductor Electronics | 4 |
| ECET 201 | Alternating Current Circuits | 4 |
| MATH 220 | Analytic Geometry and Calculus I | 4 |
| PHYS 113 | General Physics I | 4 |

**Spring semester (15 credit hours)**

| | | |
|---|---|---|
| ECET 240 | Electronics Manufacturing | 3 |
| ECET 335 | Industrial Control Topics | 1 |
| ECET 350 | Microprocessor Fundamentals | 4 |
| MATH 221 | Analytic Geometry and Calculus II | 4 |
| MET 382 | Industrial Instrumentation and Controls | 3 |

**Junior**

**Fall semester (16 credit hours)**

| | | |
|---|---|---|
| CMST 302 | Applications in C programming for ET | 3 |
| ECET 304 | Electric Power & Device | 3 |
| ECET 352 | Digital Circuits and Systems | 4 |
| ENGL 200 | Expository Writing II | 3 |
| | Humanities/Social Science elective | 3 |

**Spring semester (14 credit hours)**

| | | |
|---|---|---|
| BUS 315 | Supervisory Management | 3 |
| ECET 320 | Electronic Communication System | 4 |
| ENGL 302 | Technical Writing | 3 |
| | Science Elective with lab | 4 |

**Senior**

**Fall semester (14 credit hours)**

| | | |
|---|---|---|
| ECET 430 | Signals and Systems | 3 |
| ECET 450 | Digital Systems & Computer Architecture | 4 |
| ECET 480 | Electronics Design I | 1 |
| | Humanities/Social Science elective | 3 |
| | Technical Elective | 3 |

**Spring semester (15 credit hours)**

| | | |
|---|---|---|
| ECET 420 | Communication Circuits Design | 4 |
| ECET 481 | Electronics Design II | 2 |
| | Humanities/Social Science elective | 3 |
| | *Humanities/Social Science elective | 3 |
| | Technical Elective | 3 |

*Marked electives must be upper-level courses, 300 and above.

**PROPOSED: Electronic and computer engineering technology option (BETB-EC)**

122 hours required for graduation

**Freshman**

**Fall semester (16 credit hours)**

| | | |
|---|---|---|
| COT 299 | Mastering Academic Conversations | 3 |
| ECET 100 | Basic Electronics | 4 |
| ECET 250 | Digital Logic | 3 |
| ENGL 100 | Expository Writing I | 3 |
| MATH 100 | College Algebra | 3 |

**Spring semester (16 credit hours)**

| | | |
|---|---|---|
| CHM 110 | General Chemistry | 3 |
| CHM 111 | General Chemistry Lab | 1 |
| CMST 250 | Hardware and Network Fundamentals | 3 |
| COMM 106 | Public Speaking I | 3 |
| ECET 101 | Direct Current Circuits | 3 |
| MATH 150 | Plane Trigonometry | 3 |

**Sophomore**

**Fall semester (16 credit hours)**

| | | |
|---|---|---|
| ECET 110 | Semiconductor Electronics | 4 |
| ECET 201 | Alternating Current Circuits | 4 |
| MATH 220 | Analytic Geometry and Calculus I | 4 |
| PHYS 113 | General Physics I | 4 |

**Spring semester (15 credit hours)**

| | | |
|---|---|---|
| ECET 240 | Electronics Manufacturing | 3 |
| ECET 335 | Industrial Control Topics | 1 |
| ECET 350 | Microprocessor Fundamentals | 4 |
| MATH 221 | Analytic Geometry and Calculus II | 4 |
| MET 382 | Industrial Instrumentation and Controls | 3 |

**Junior**

**Fall semester (16 credit hours)**

| | | |
|---|---|---|
| CMST 302 | Applications in C programming for ET | 3 |
| ECET 304 | Electric Power & Device | 3 |
| ECET 352 | Digital Circuits and Systems | 4 |
| ENGL 200 | Expository Writing II | 3 |
| | Humanities/Social Science elective | 3 |

**Spring semester (14 credit hours)**

| | | |
|---|---|---|
| BUS 315 | Supervisory Management | 3 |
| ECET 320 | Electronic Communication System | 4 |
| ENGL 302 | Technical Writing | 3 |
| | Science Elective with lab | 4 |

**Senior**

**Fall semester (14 credit hours)**

| | | |
|---|---|---|
| ECET 430 | Signals and Systems | 3 |
| ECET 450 | Digital Systems & Computer Architecture | 4 |
| ECET 480 | Electronics Design I | 1 |
| | Humanities/Social Science elective | 3 |
| | Technical Elective | 3 |

**Spring semester (15 credit hours)**

| | | |
|---|---|---|
| ECET 420 | Communication Circuits Design | 4 |
| ECET 481 | Electronics Design II | 2 |
| | Humanities/Social Science elective | 3 |
| | *Humanities/Social Science elective | 3 |
| | Technical Elective | 3 |

*Marked electives must be upper-level courses, 300 and above.

**Rationale:** Digital Logic (ECET 250) has been reduced by 1 credit hour to 3 credits in order to avoid redundancies. This will bring the degree option requirements to 122 credits and closer to the KBOR goal of 120.

**Impact (i.e. if this impacts another unit) – Statement should include the date when the head of a unit was contacted, and the response or lack of:** No impact on other units

**Bachelor of Science in Engineering Technology, Robotics and Automation option**
http://catalog.k-state.edu/preview_program.php?catoid=40&poid=13594

**Current**

**Bachelor of Science in Engineering Technology, Robotics and Automation option**

124 credit hours required

**~~Major Requirements (100 credit hours)~~**

**Core Courses (62 credit hours)**

| | | |
|---|---|---|
| CMST 302 | App. In C Programming for ET | 3 |
| CMST 305 | Robotics Programming | 3 |
| CMST 357 | Machine Vision | 3 |
| ECET 100 | Basic Electronics | 4 |
| ECET 250 | Digital Logic | ~~4~~ |
| ECET 304 | Power and Devices | 3 |
| ECET 350 | Microprocessor Fundamentals | 4 |
| ECET 352 | Digital Circuits and Systems | 4 |
| ECET 385 | Programmable Logic Controllers | 3 |
| ETB 310 | Applied Data Analysis and Tools | 3 |
| ETB 482 | Senior Design Project I | 1 |
| ETB 483 | Senior Design Project II | ~~2~~ |
| MET 111 | Technical Graphics | 3 |
| MET 121 | Manufacturing Methods | 3 |
| MET 211 | Statics | 3 |
| MET 230 | Automated Manufacturing Systems I | 3 |
| MET 245 | Materials Strength & Testing | 3 |
| MET 246 | Dynamics of Machines | 3 |
| MET 264 | Machine Design Technology I | 4 |
| MET 382 | Industrial Instrumentation And Controls | 3 |

**Technical Electives (9 credit hours)**

*Choose ~~three~~ from the following electives:*

| | | |
|---|---|---|
| CMST 250 | Hardware and Network Fundamentals. | 3 |
| CMST 270 | Introduction to Unix | 3 |
| ECET 430 | Signals and Systems | 3 |
| MET 117 | Mechanical Detailing | 3 |
| MET 125 | CNC Machine Processes | 2 |
| MET 252 | Fluid Power Technology | 3 |
| MET 346 | Elements of Mechanisms | 3 |
| MET 481 | Automated Manufacturing Systems II | 3 |

**Proposed**

**Bachelor of Science in Engineering Technology, Robotics and Automation option**

120 credit hours required

**Core Courses (61 credit hours)**

| | | |
|---|---|---|
| CMST 302 | App. In C Programming for ET | 3 |
| CMST 305 | Robotics Programming | 3 |
| CMST 357 | Machine Vision | 3 |
| ECET 100 | Basic Electronics | 4 |
| ECET 250 | Digital Logic | 3 |
| ECET 304 | Power and Devices | 3 |
| ECET 350 | Microprocessor Fundamentals | 4 |
| ECET 352 | Digital Circuits and Systems | 4 |
| ECET 385 | Programmable Logic Controllers | 3 |
| ETB 310 | Applied Data Analysis and Tools | 3 |
| ETB 482 | Senior Design Project I | 1 |
| ETB 483 | Senior Design Project II | 1-3 |
| MET 111 | Technical Graphics | 3 |
| MET 121 | Manufacturing Methods | 3 |
| MET 211 | Statics | 3 |
| MET 230 | Automated Manufacturing Systems I | 3 |
| MET 245 | Materials Strength & Testing | 3 |
| MET 246 | Dynamics of Machines | 3 |
| MET 264 | Machine Design Technology I | 4 |
| MET 382 | Industrial Instrumentation And Controls | 3 |

**Technical Electives (9 credit hours)**

*Choose ~~9 credit hours~~ from the following electives:*

| | | |
|---|---|---|
| CMST 250 | Hardware and Network Fundamentals. | 3 |
| CMST 270 | Introduction to Unix | 3 |
| ECET 430 | Signals and Systems | 3 |
| ETB 483* | Senior Design Project II | 1 |
| MET 117 | Mechanical Detailing | 3 |
| MET 125 | CNC Machine Processes | 2 |
| MET 252 | Fluid Power Technology | 3 |
| MET 346 | Elements of Mechanisms | 3 |
| MET 481 | Automated Manufacturing Systems II | 3 |
| STAT 325 | Introduction to Statistics | 3 |

| | |
|---|---|
| STAT 325 Introduction to Statistics ..... 3<br>*Other electives may be used if approved by program faculty.*<br><br>**Math requirements (14 credit hours)**<br>MATH 100 College Algebra ..... 3<br>MATH 150 Trigonometry ..... 3<br>MATH 220 Analytic Geometry & Calculus I ..... 4<br>MATH 221 Analytic Geometry & Calculus II ..... 4<br><br>**Other requirements (24 credit hours)**<br>CHM 110 General Chemistry ..... 3<br>CHM 111 General Chemistry Laboratory ..... 1<br>COMM 106 Public Speaking I ..... 3<br>ENGL 100 Expository Writing I ..... 3<br>ENGL 200 Expository Writing II ..... 3<br>ENGL 302 Technical Writing ..... 3<br>PHYS 113 General Physics I ..... 4<br>PHYS 114 General Physics II ..... 4<br><br>**Other electives (12 credit hours, 6 credits upper level)**<br>Business elective ..... 3<br>Humanities/Social science elective ..... 3<br>Humanities/Social science/Business elective* ..... 3<br>Humanities/Social science elective* ..... 3<br>**Marked electives must be upper-level courses, 300 and above* | *Other electives may be used if approved by program faculty.*<br>** ETB 483 may be taken for an extra credit hour if needed to complete 9 credit hours of technical electives.*<br><br>**Math requirements (14 credit hours)**<br>MATH 100 College Algebra ..... 3<br>MATH 150 Trigonometry ..... 3<br>MATH 220 Analytic Geometry & Calculus I ..... 4<br>MATH 221 Analytic Geometry & Calculus II ..... 4<br><br>**Other requirements (24 credit hours)**<br>CHM 110 General Chemistry ..... 3<br>CHM 111 General Chemistry Laboratory ..... 1<br>COMM 106 Public Speaking I ..... 3<br>ENGL 100 Expository Writing I ..... 3<br>ENGL 200 Expository Writing II ..... 3<br>ENGL 302 Technical Writing ..... 3<br>PHYS 113 General Physics I ..... 4<br>PHYS 114 General Physics II ..... 4<br><br>**Other electives (12 credit hours, 6 credits upper level)**<br>Business elective ..... 3<br>Humanities/Social science elective ..... 3<br>Humanities/Social science/Business elective** ..... 3<br>Humanities/Social science elective** .. 3<br>***Marked electives must be upper-level courses, 300 and above* |

**Rationale:**

This proposal reduces the total credit hours for the ETB-RA degree to 120 hours as required by KBOR. This is accomplished by a reduction of the credit hours for the ECET 250 (Digital Logic) course from 4 hours to 3 hours.

In addition, students electing to take a 2 credit hour technical elective course are given the option to take ETB 483 (Senior Design Project II) for an additional credit hour to complete 9 credit hours of technical electives.

**Impact (i.e. if this impacts another unit) – Statement should include the date when the head of a unit was contacted, and the response or lack of:** No impact on other units

**Veterinary Medicine**

Diagnostic Medicine/Pathobiology

# Agricultural Biosecurity Research Graduate Certificate

Agricultural Biosecurity Research Graduate Certificate

Dr. Dana Vanlandingham
email: dlvanlan@vet.ksu.edu, phone: 785-532-1369

## A. Introduction

The 18-credit hour Agricultural Biosecurity Research Graduate Certificate is designed to foster the development of research scientists to safely plan and execute research in a variety of biosafety level environments (BSL-3, BSL-3 Ag, and BSL-4). This interdisciplinary certificate will instill common biosafety, containment, and regulatory compliance knowledge and skills that are required to work in high and maximum containment research facilities. The certificate will also provide a deeper understanding of the agents and toxins which are frequently studied in these facilities.

The Agricultural Biosecurity Research Graduate Certificate is offered through the College of Veterinary Medicine to non-degree and degree seeking graduate and Doctor of Veterinary Medicine (DVM) students who plan to work in high and maximum containment facilities. Students will develop an appreciation, and necessary skills, for the exacting performance standards required in these complex and demanding work environments.

Students with a graduate standing and a 3.0 GPA or higher in the field of biological sciences or a cumulative GPA of 3.0 or higher in the DVM curriculum are eligible to enroll in this program. Possible exceptions can be made upon the approval of the Agricultural Biosecurity Research Graduate Certificate Coordinator in consultation with associated faculty.

Courses available through this certificate may be included in the student's graduate program of study with approval from the student's major professor and advisory committee. Course credit from other related programs or institutions may be substituted for credit in this certificate program with approval from the Agricultural Biosecurity Research Graduate Certificate Coordinator in consultation with associated faculty.

### Statement of the Educational Objectives

To receive the certificate, students must complete the required 18-credit hours of graduate coursework which consists of 12-credit hours of core courses and 6-credit hours from participating academic programs focusing on an area of specialization. This integrated training approach for the Agricultural Biosecurity Research Graduate Certificate has three educational objectives:

1. demonstrate the ability to implement procedures and regulations in order to safely and securely function in a biocontainment facility;
2. demonstrate a base knowledge of the history and rationale behind the Federal Select Agent Program and associated laws, regulations, and policies and how these policies affect the function and design of biocontainment systems; and

3. demonstrate ability to communicate orally and in the written form, as required for work in a high containment environment.

B. **Curriculum Overview**

**Certificate Program Courses (**18 credit hours total)

**Core Courses: 12 Credits Required**

| | | |
|---|---|---|
| DMP 690 | 1 cr. | Essential Practices for BSL-3 Research Settings |
| DMP 691 | 2 cr. | Introduction to High Containment Research Topics and Techniques |
| DMP 846 | 3 cr. | Foundations of Biosecurity |
| DMP 893 | 3 cr. | Principles of Biosafety and Biocontainment |
| DMP 895-B | 3 cr. | Select Agent Studies |

**Elective Courses: 6 Credits Required**

| | | |
|---|---|---|
| AGEC 610 | 3 cr. | Current Agriculture and Natural Resource Policy Issues |
| DMP 770 | 3 cr. | Emerging Diseases |
| DMP 844 | 3 cr. | Global Health Issues |
| DMP 855 | 3 cr. | Disease Detection, Surveillance and Risk Assessment |
| DMP 871 | 3 cr. | Molecular Diagnostics of Infectious Diseases |
| DMP 895-A | 3 cr. | Transboundary Animal Diseases |
| FDSCI 600 | 2 cr. | Food Microbiology |
| FDSCI 730 | 2 cr. | A Multidisciplinary Overview of Food Safety and Security |
| FDSCI 731 | 2 cr. | Food Protection and Defense-Essential Concepts |
| FDSCI 753 | 3 cr. | Risk Assessment for Food, Ag & Vet Med |

*Please note that other classes may be approved by the program director and associated faculty.*

**<u>Core Course Descriptions (12 Credits Required):</u>**

**DMP 690 – Essential Practices for BSL-3 Research Settings (1 credit)**
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 and successfully conduct research in a Biosafety Level 3 setting.

**DMP 691 – Introduction to High Containment Research Topics and Techniques (2 credits)**
This course examines the rationale behind the skills and techniques taught in Essential Practices for BSL-3 Research Settings. Students will gain familiarity with case studies, scientific readings, and laboratory research papers. Students review and discuss research

papers, topics, and practices related to biological agents and toxins appropriate for research conducted in biosafety level 3, BSL-3, ABSL-3, and BSL-3Ag facilities.

**DMP 846 – Foundations of Biosecurity (3 credits)**
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.

**DMP 893 – Principles of Biosafety and Biocontainment (3 credits)**
This graduate 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.

**DMP 895-B – Select Agent Studies (3 credits)**
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, personal 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.

**Elective Course Descriptions (6 Credits Required):**

**AGEC 610 - Current Agriculture and Natural Resource Policy Issues (3 credits)**
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.

**DMP 770 – Emerging Diseases (3 credits)**
An investigation into recently identified emerging diseases, the conditions that enable their emergence, and the human health implications of each disease.

**DMP 844 - Global Health Issues (3 credits)**
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.

**DMP 855 - Disease Detection, Surveillance and Risk Assessment (3 credits)**
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.

**DMP 871 - Molecular Diagnostics of Infectious Diseases (3 credits)**
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.

**DMP 895-A - Transboundary Animal Diseases (3 credits)**
This course will allow students to explore clinical and pathological manifestations of specific transboundary and foreign animal diseases identified as agents of concern in the United States. Students will participate in lecture discussions and will prepare a written report based on a recent transboundary disease outbreak.

**FDSCI 600 - Food Microbiology (2 credits)**
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.

**FDSCI 730 - A Multidisciplinary Overview of Food Safety and Security (2 credits)**
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.

**FDSCI 731 - Food Protection and Defense-Essential Concepts (2 credits)**
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.

**FDSCI 753 - Risk Assessment for Food, Ag, & Vet Med (3 credits)**
Risk assessment principles as applied to biological systems. Exposure and effects characterization in human and animal health and ecological risk assessment. Risk analysis frameworks and regulatory decision-making. Introduction to quantitative methods for risk assessment using epidemiological and distributional analyses. Uncertainty analysis.

C. **Meeting Educational Objectives**

The core and elective classes will meet the stated educational objectives of (1) demonstrate the ability to implement procedures and regulations in order to safely and securely function in a biocontainment facility; (2) demonstrate a base knowledge of the history and rationale behind the Federal Select Agent Program and associated laws, regulations, and policies and how these policies affect the function and design of biocontainment systems; and (3) demonstrate ability to communicate orally and in the written form, as required for work in a high containment environment.

The 12 core credit hours of classes are taught by researchers with extensive experience conducting research on infectious agents in high containment facilities. Guest lecturers for the courses are subject matter experts in fields related to various aspects of high containment research. As needed, core classes are taught on-site at the Biosecurity Research Institute (BRI) located in Pat Roberts Hall at KSU utilizing the BSL-3 simulator training laboratory to enable students to develop and enhance their laboratory skills. These classes bring a unique combination of researchers with expertise in high containment research, subject matter experts with broad experience working in the high containment environment, and the opportunity to utilize the BSL-3 simulator training laboratory to enable assessment and discussion of best practices.

Of the core classes, DMP 690 Essential Practices for BSL-3 Research Settings and DMP 691 Introductions to High Containment Research Topics and Techniques, are designed to meet the first educational objective of providing the student with the knowledge base to function safely and securely in a biocontainment facility as a researcher, Principal Investigator, or support personnel. The classes DMP 846 Foundations of Biosecurity, DMP 893 Principles of Biosafety and Biocontainment, and DMP 895-B Select Agent Studies will meet the second educational objective of providing the student the base knowledge of the history and rationale behind the Federal Select Agent Program and associated laws, regulations, and policies and how these policies affect the function and design of biocontainment systems. The third educational objective will be met by all the classes by providing the student with the ability to communicate orally and in the written form, as required for work in a high containment environment.

D. **Statement of Need**

This certificate program aligns with K-State's 2025 themes 1, 3, 4, 5 and 6 and strongly supports these overall visionary goals. The academic and research experiences available through this certificate will help address the critical need for a skilled workforce which will be required when the National Bio and Agro-Defense Facility (NBAF) opens in Manhattan,

Kansas in 2022. According to the Department of Homeland Security administrators, there will be approximately 300 new jobs available at the NBAF; 100 of these will be at the scientist level working in BSL-3 and BSL-4 conditions. This Agricultural Biosecurity Research Graduate Certificate will address the need for skilled workers with a good understanding of how to function safely and securely in this high consequence and highly regulated environment. Recipients of this certificate should stand out in a competitive job market. Additionally, the certificate will provide students with invaluable background knowledge and experience related to the field of high containment agricultural research which should benefit students interested in working with the anticipated new businesses generated by NBAF's presence in the animal health corridor.

## E. Certificate Administration

The certificate program will be administrated through the Veterinary Biomedical Science (VBS) program. The VBS will process applications for the certificate in accordance with their current procedures for non-degree and degree seeking students. Once the student is admitted to the Graduate School, the application will be sent to the Agricultural Biosecurity Research Graduate Certificate Admissions Committee, which will consist of three professors or other experts who are currently working in this field, for acceptance determination. The Agricultural Biosecurity Research Graduate Certificate Program Committee will consist of three researchers and/or subject matter experts who will provide oversite for the certificate program administration.

## F. Estimated Budget

The Agricultural Biosecurity Research Graduate Certificate will be supported through the College of Veterinary Medicine (CVM) VBS program for administrative support and oversite from the VBS Director. The CVM will also support 10% salary for the Agricultural Biosecurity Research Graduate Certificate Coordinator.

## G. Faculty

Dana L. Vanlandingham, PhD, Associate Professor, Diagnostic Medicine/Pathobiology, College of Veterinary Medicine, Kansas State University.

Stephen Higgs, PhD, Associate Vice President for Research, Biosecurity Research Institute Director, Kansas State University Distinguished Professor, Diagnostic Medicine/Pathobiology, College of Veterinary Medicine, Kansas State University.

Alfonso Torres, DVM, PhD, Associate Dean for Public Policy, Cornell University, Adjunct Faculty, Diagnostic Medicine/Pathobiology, College of Veterinary Medicine, Kansas State University.

Bradley Njaa, DVM, M.Sc. Professor, Diagnostic Medicine/Pathobiology, College of Veterinary Medicine, Kansas State University.

Yan-Jang Scott Huang, PhD, Research Assistant Professor, Diagnostic Medicine/ Pathobiology, College of Veterinary Medicine, Kansas State University.

Greg Peterson, PhD, Research Assistant Professor, Biosecurity Research Institute, Kansas State University.

H. **Graduate Certificate Coordinator**

Dana L. Vanlandingham
1041 Pat Roberts Hall, Manhattan, KS 66506-7600

I. **Student Learning Outcomes and Assessment plan**

SLO1: Upon completion of the Agricultural Biosecurity Research program, students will demonstrate the ability to implement procedures and regulations in order to safely and securely function in a biocontainment facility:

a. demonstrating skills needed to safely work in a high containment laboratory through hands on experience which will be scored by the professor using a check list and rubric;
b. demonstrating the ability to write standard operating procedures and complete regulatory approval forms needed to conduct work in high containment as demonstrated by developing a project specific notebook.

SLO2: Upon completion of the Agricultural Biosecurity Research program, students will demonstrate a base knowledge of the history and rationale behind the Federal Select Agent Program and associated laws, regulations, and policies and how these policies affect the function and design of biocontainment systems by:

a. using the knowledge base presented from lectures, readings, and discussions, students will develop risk assessments for high containment work;
b. using the knowledge base presented from lectures, readings, and discussions, students will develop a floorplan of the high containment laboratory and support spaces, associated layout of security and controls systems, and description of security and control features for a Tier One High Containment facility.

SLO3: Upon completion of the Agricultural Biosecurity Research program, students will demonstrate ability to communicate orally and in the written form as required for work in a high containment environment:

a. presenting oral presentations which will be assessed for clear and concise presentation and delivery skills by the professor based on a rubric;
b. developing written projects which will be assessed for clear and concise writing by the professor based on a rubric.

J. **Endorsements/ Support**

1. **From:** John Floros [mailto:floros@ksu.edu]
   **Sent:** Monday, January 8, 2018 4:05 PM
   **To:** Dana L. Vanlandingham <dlvanlan@bri.ksu.edu>
   **Subject:** RE: Request for letter of support for Proposed Certificate Program

   Dear Dana,

   We in the College of Agriculture don't have any issues with your proposal and we are supportive. However, I urge you to work closely with our unit leadership in AGEC (Allen Featherstone) and FDSCI (Randy Phebus) to make sure there are no problems with the courses listed and planned from these two programs.

   Best,
   John

   John D. Floros
   Dean, College of Agriculture
   Director, K-State Research and Extension
   Kansas State University
   114 Waters Hall
   Manhattan, KS 66506-4008
   Tel: 785-532-7137
   Fax: 785-532-6563
   Email: floros@ksu.edu

2. **From:** Brian Spooner [mailto:spoon1@ksu.edu]
   **Sent:** Thursday, January 18, 2018 1:33 PM
   To: Dana L. Vanlandingham <dlvanlan@bri.ksu.edu>
   Cc: Brian Spooner <spoon1@ksu.edu>
   Subject: Graduate Certificate Support

   Dear Dr. Vanlandingham,
   Thank you for the opportunity to review your proposed graduate certificate. I support this offering, and see no conflict with the Division of Biology, subject to the one change that we previously agreed on, and which you have made.
   Good luck with the program.

   Best wishes,
   Brian
   Brian S. Spooner, PhD
   University Distinguished Professor and Director, Division of Biology
   Kansas State University, 1717 Claflin Rd, Manhattan,Ks 66506

| SLO/Required Courses/Experiences | Course Number(s) | Course Number(s) | Course Number(s) | Course Number(s) | In Class Projects | Project Notebook |
|---|---|---|---|---|---|---|
| **Degree Program SLOs** | DMP 690<br>DMP 691 | DMP 846 | DMP 893 | DMP 895-B | | |
| 1. Demonstrate the ability to implement procedures and regulations in order to safely and securely function in a biocontainment facility | X | | X | X | A | A |
| 2. Demonstrate a base knowledge of the history and rationale behind the Federal Select Agent Program and associated laws, regulations, and policies and how these policies affect the functioning and design of biocontainment systems | | X | X | X | A | A |
| 3. Demonstrate ability to communicate orally and in the written form, as required for work in a high containment environment | X | X | X | X | A | A |
| **University SLOs (Graduate Programs)** | | | | | | |
| Knowledge | X | X | X | X | A | A |
| Skills | X | X | X | X | A | A |
| Attitudes and Professional Conduct | X | X | A | X | A | |

**Alignment Matrix for Graduate Programs** – For each stated student learning outcome, where does the student have the opportunity to learn the outcome (e.g., specific courses, multiple courses, or other program requirements) and where is student achievement of the outcome assessed (e.g., assignments in courses, evaluation of final thesis, report, dissertation)?

- Place an "X" for courses or experiences in which students have the opportunity to learn the outcome (coursework, other program requirements).
- Place an "A" for courses or experiences in which student performance is used for program level assessment of the outcome (assignments in courses, evaluation of final thesis, report, dissertation).

## Appendix B: SLO Associated Rubrics

## SLO 1 Associated Rubrics

### DMP 690 Project Notebook Rubric

| Criteria | Minimal | Average | Exceptional | Points |
|---|---|---|---|---|
| **Written Skills** | | | | |
| Structure | The written submission has a weak beginning, middle, and conclusion. The writing is not clear or concise. (0-7 points) | The written submission has an adequate beginning, middle, and conclusion. The writing is relatively clear and concise. (8-9 points) | The written submission has an appropriate beginning, middle, and conclusion. The writing is clear and concise. (10 points) | / 10 |
| Mechanics | The writing has several major grammatical errors that are distracting to the reader. (0-7 points) | The writing is relatively free of grammatical errors. (8-9 points) | The writing contains no major grammatical errors. (10 points) | / 10 |
| **Content** | | | | |
| Project Description | The scope of the project is not clearly explained. (0-7 points) | The scope of the project is explained adequately. (8-9 points) | The scope of the project is explained fully, clearly, and concisely. (10 points) | / 10 |
| Place (Facility Design) | The overall facility design is not clearly explained. (0-7 points) | The overall facility design is explained adequately. (8-9 points) | The facility design description is explained fully, clearly, and concisely. (10 points) | / 10 |
| Protective Equipment | The project PPE requirements are not clearly explained. (0-7 points) | The project PPE requirements are explained adequately. (8-9 points) | The project PPE requirements are explained fully, clearly, and concisely. (10 points) | / 10 |
| Procedure and Work Practices (SOP#1) | The project specific procedures are not clearly explained. (0-7 points) | The project specific procedures are explained adequately. (8-9 points) | The project specific procedures explained fully, clearly, and concisely. (10 points) | / 10 |
| Pathogen Description | The characteristics of the pathogen are not clearly explained. (0-7 points) | The pathogen characteristics are explained adequately. (8-9 points) | The pathogen characteristics are explained fully, clearly, and concisely. (10 points) | / 10 |
| Procedures and Work Practices (Chemical Hygiene) | The project chemical requirements and hazards are not clearly explained. (0-7 points) | The project chemical requirements and hazards are explained | The chemical requirements and hazards are explained | / 10 |

| | | | | |
|---|---|---|---|---|
| | | adequately. (8-9 points) | fully, clearly, and concisely. (10 points) | |
| Procedure and Work Practices (SOP#1 Revision) | The project specific procedures are not clearly explained. (0-7 points) | The project specific procedures are explained adequately. (8-9 points) | The project specific procedures are explained fully, clearly, and concisely. (10 points) | / 10 |
| Procedure and Work Practices (SOP#2) | The project specific procedures are not clearly explained. (0-7 points) | The project specific procedures are explained adequately. (8-9 points) | The project specific procedures explained fully, clearly, and concisely. (10 points) | / 10 |
| Procedure and Work Practices (SOP#3) | The project specific procedures are not clearly explained. (0-7 points) | The project specific procedures are explained adequately. (8-9 points) | The project specific explained fully, clearly, and concisely. (10 points) | / 10 |
| Personnel (Occupational Medicine Form) | The project occupational medical concerns are not clearly explained. (0-7 points) | The project occupational medical concerns are explained adequately. (8-9 points) | The project occupational medical concerns explained fully, clearly, and concisely. (10 points) | / 10 |
| Procedures and Work Practices (IBC Form) | The project IBC requirements are not clearly explained. (0-28 points) | The project IBC requirements are explained adequately. (29-36 points) | The project IBC requirements are explained fully, clearly, and concisely. (37-40 points) | / 40 |
| Final Exam: IACUC Form | The project IACUC requirements are not clearly explained. (0-28 points) | The project IACUC requirements are explained adequately. (29-36 points) | The project IACUC requirements are explained fully, clearly, and concisely. (37-40 points) | / 40 |
| **Total Points** | | | | / 200 |

**DMP 691 In-Class Oral Presentation Rubric**

| Criteria | Minimal | Average | Exceptional | Points |
|---|---|---|---|---|
| **Verbal Skills** | | | | |
| Communication | The presented information was not articulated clearly. (0-7 points) | The presented information was articulated adequately. (8-9 points) | The presented information was articulated clearly and concisely. (10 points) | / 10 |
| Presentation | The presentation was outside of the allotted 15 – 20 minute time range, contained several misspelled words and grammatical errors, and was not professional. (0-7 points) | The presentation was within the allotted 15 – 20 minute time range, did not contain spelling or grammatical errors, and was somewhat professional. (8-9 points) | The presentation stayed within the allotted 15 – 20 minute time range and was not rushed or too slow. It did not have spelling or grammatical errors and was extremely professional. (10 points) | / 10 |
| Discussion | The discussion was limited due to the lack of questions from the presenter. (0-14 points) | The discussion was adequate and was instigated by questions from the presenter. The discussion stayed on topic. (15-18 points) | The discussion engaged the audience due to stimulating questions posed by the presenter. The discussion stayed on topic. (19-20 points) | / 20 |
| **Content** | | | | |
| Scholarship | The presenter provided an opinion or recommendation that was not justified by current research. No sources were cited. (0-42 points) | The presenter provided an opinion or recommendation that was justified by only a few cited sources. (43-54 points) | The presenter provided an opinion or recommendation that was well reasoned and supported by several cited sources. (55-60 points) | / 60 |
| **Total Points** | | | | / 100 |

**DMP 893 Project #1 Rubric: Design of laboratory**

| Criteria | | Minimal | Average | Exceptional | Points |
|---|---|---|---|---|---|
| **Written Skills** | | | | | |
| Structure | | The written submission has a weak beginning, middle, and conclusion. The writing is not clear or concise. (0-7 points) | The written submission has an adequate beginning, middle, and conclusion. The writing is relatively clear and concise. (8-9 points) | The written submission has an appropriate beginning, middle, and conclusion. The writing is clear and concise. (10 points) | / 10 |
| Mechanics | | The writing has several major grammatical errors that are distracting to the reader. (0-7 points) | The writing is relatively free of grammatical errors. (8-9 points) | The writing contains no major grammatical errors. (10 points) | / 10 |
| **Content** | | | | | |
| Project Narrative | Backstory | The backstory is not clearly explained. (0-7 points) | The backstory is explained adequately. (8-9 points) | The backstory of the laboratory is explained fully, clearly, and concisely. (10 points) | / 10 |
| | Research Project in the Space | The research project is not clearly explained. (0-7 points) | The research project is explained adequately. (8-9 points) | The research project description is explained fully, clearly, and concisely. (10 points) | / 10 |
| Layout | Office and Admin Space | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| | BSL-2 Lab(s) | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| | BSL-3 Lab(s) | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |

| | | | | | |
|---|---|---|---|---|---|
| | Specialized Space #1 (required) | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| | Specialized Space #2 (optional) | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| | Support Space | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| Floorplans and Diagrams | Master Floorplan | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| | Air Handling Diagram | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
| | Liquid Waste Diagram | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
| | Solid Waste Diagram | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
| | Physical Security Measures Diagram | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
| | Primary Equipment Diagram / Furnish | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| Detailed Space Plans | BSL-2 Lab | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| | BSL-3 Lab | It is unclear how the space is | The space is designed | The design of the space is clear and | / 10 |

| | | | | | |
|---|---|---|---|---|---|
| | | designed or how it will be used. (0-7 points) | adequately. (8-9 points) | its intended use is evident. (10 points) | |
| | Specialized Space #1 | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| | Specialized Space #2 (optional) | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| **Total Points** | | | | | / 200 |

**DMP 893 Project #2 Rubric: In-Class Oral Presentation**

| Criteria | Minimal | Average | Exceptional | Points |
|---|---|---|---|---|
| **Verbal Skills** | | | | |
| Communication | The presented information was not articulated clearly. (0-7 points) | The presented information was articulated adequately. (8-9 points) | The presented information was articulated clearly and concisely. (10 points) | / 10 |
| Presentation | The presentation was outside of the allotted 60 – 70 minute time range, contained several misspelled words and grammatical errors, and was not professional. (0-7 points) | The presentation was within the allotted 60 – 70 minute time range, did not contain spelling or grammatical errors, and was somewhat professional. (8-9 points) | The presentation stayed within the 60 – 70 minute time range and was not rushed or too slow. It did not have spelling or grammatical errors and was extremely professional. (10 points) | / 10 |
| Discussion | The discussion was limited due to the lack of questions from the presenter. (0-14 points) | The discussion was adequate and was instigated by questions from the presenter. The discussion stayed on topic. (15-18 points) | The discussion engaged the audience due to stimulating questions posed by the presenter. The discussion stayed on topic. (19-20 points) | / 20 |
| **Content** | | | | |
| Scholarship | The presenter provided an opinion or recommendation that was not justified by current research. No sources were cited. (0-42 points) | The presenter provided an opinion or recommendation that was justified by only a few cited sources. (43-54 points) | The presenter provided an opinion or recommendation that was well reasoned and supported by several cited sources. (55-60 points) | / 60 |
| **Total Points** | | | | / 100 |

**DMP 895-B Project #2 Rubric: Project Notebook**

| Criteria | Minimal | Average | Exceptional | Points |
|---|---|---|---|---|
| **Written Skills** | | | | |
| Structure | The written submission has a weak beginning, middle, and conclusion. The writing is not clear or concise. (0-7 points) | The written submission has an adequate beginning, middle, and conclusion. The writing is relatively clear and concise. (8-9 points) | The written submission has an appropriate beginning, middle, and conclusion. The writing is clear and concise. (10 points) | / 10 |
| Mechanics | The writing has several major grammatical errors that are distracting to the reader. (0-7 points) | The writing is relatively free of grammatical errors. (8-9 points) | The writing contains no major grammatical errors. (10 points) | / 10 |
| **Content** | | | | |
| FSAP 1 Sec. 1C: Entity Abstract | The research project is not clearly explained. (0-7 points) | The research project is explained adequately. (8-9 points) | The research project description is explained fully, clearly, and concisely. (10 points) | / 10 |
| FSAP 1 Sec. 7C: Description of Work | The research project is not clearly explained. (0-7 points) | The research project is explained adequately. (8-9 points) | The research project description is explained fully, clearly, and concisely. (10 points) | / 10 |
| FSAP 1 Attachment B: Dual Use Research of Concern (DURC) | The possible project DURC violations (if any) are not clearly explained. (0-7 points) | The possible project DURC violations (if any) are explained adequately. (8-9 points) | The possible project DURC violations (if any) are explained clearly and concisely. (10 points) | / 10 |
| FSAP 1 Pick one that applies: Attachment C, D, E, F, or G | The project specific procedures are not clearly explained. (0-7 points) | The project specific procedures are explained adequately. (8-9 points) | The project specific procedures are explained fully, clearly, and concisely. (10 points) | / 10 |
| SOP #1 | The project specific procedures are not clearly explained. (0-7 points) | The project specific procedures are explained adequately. (8-9 points) | The project specific procedures are explained fully, clearly, and concisely. (10 points) | / 10 |
| SOP #2 | The project specific procedures are not clearly explained. (0-7 points) | The project specific procedures are explained adequately. (8-9 points) | The project specific procedures are explained fully, clearly, and concisely. (10 points) | / 10 |

| | | | | |
|---|---|---|---|---|
| SOP #3 | The project specific procedures are not clearly explained. (0-7 points) | The project specific procedures are explained adequately. (8-9 points) | The project specific procedures are explained fully, clearly, and concisely. (10 points) | / 10 |
| Biological Engagement Program (BEP) Abstract | BEP proposal not well explained. (0-7 points) | BEP proposal has plausible proposal. (8-9 points) | Clear and concise BEP proposal. (10 points) | / 10 |
| **Total Points** | | | | / 100 |

## SLO 2 Associated Rubrics

### DMP 846 Midterm Rubric

| Criteria | Minimal | Average | Exceptional | Points |
|---|---|---|---|---|
| Identify the most critical biosafety problem of the laboratory. | The biosafety problem identified was not the most critical for the laboratory. (0-3 points) | The biosafety problem identified was amongst the most critical for the laboratory. (4 points) | The biosafety problem identified is the most critical facing the laboratory. (5 points) | /5 |
| Describe a mitigation strategy to address the biosafety problem identified. | The mitigation strategy does not address the underlying causes of the biosafety problem. (0-3 points) | The mitigation strategy addresses a few of the causes of the biosafety problem identified. (4 points) | The mitigation strategy completely address the root causes of the biosafety problem identified. (5 points) | /5 |
| Identify the most critical biosafety or biosecurity problem of the laboratory. | The biosafety or biosecurity problem identified was not the most critical for the laboratory. (0-3 points) | The biosafety or biosecurity problem identified was amongst the most critical for the laboratory. (4 points) | The biosafety or biosecurity problem identified is the most critical facing the laboratory. (5 points) | /5 |
| Describe a mitigation strategy to address the biosafety or biosecurity problem identified. | The mitigation strategy does not address the underlying causes of the biosafety or biosecurity problem. (0-3 points) | The mitigation strategy addresses a few of the causes of the biosafety or biosecurity problem identified. (4 points) | The mitigation strategy completely address the root causes of the biosafety or biosecurity problem identified. (5 points) | /5 |
| Identify the most critical physical/procedural security problem of the laboratory. | The biosafety or biosecurity problem identified was not the most critical for the laboratory. (0-3 points) | The biosafety or biosecurity problem identified was amongst the most critical for the laboratory. (4 points) | The biosafety or biosecurity problem identified is the most critical facing the laboratory. (5 points) | /5 |
| Describe a mitigation strategy to address the physical/procedural security problem identified. | The mitigation strategy does not address the underlying causes of the biosafety or biosecurity problem. (0-3 points) | The mitigation strategy addresses a few of the causes of the biosafety or biosecurity problem identified. (4 points) | The mitigation strategy completely address the root causes of the biosafety or biosecurity problem identified. (5 points) | /5 |

| | | | | |
|---|---|---|---|---|
| Make a recommendation to help improve existing legislation/programs. | The recommendation made would not improve existing legislation/programs. (0-3 points) | The recommendation made would begin to address the issues facing the existing legislation/ programs. (4 points) | The recommendation made would help to improve the existing legislation/ programs. (5 points) | /5 |
| Identify a national or local biorisk. | The biorisk identified was not the most critical for the nation or local area. (0-3 points) | The biorisk identified was amongst the most critical for the nation or local area. (4 points) | The biorisk identified is the most critical facing the nation or local area. (5 points) | /5 |
| Describe a mitigation strategy for the national or local biorisk identified. | The mitigation strategy does not address the underlying causes of the biorisk identified. (0-3 points) | The mitigation strategy addresses a few of the causes of the biorisk identified. (4 points) | The mitigation strategy completely address the root causes of the biorisk identified. (5 points) | /5 |
| **Total Points** | | | | /45 |

**DMP 846 Final Rubric**

| Criteria | Minimal | Average | Exceptional | Points |
|---|---|---|---|---|
| Perform a risk assessment and identify the sources of risks associated with the proposed plan. | The risks identified was not the most critical for the success of the proposal. (0-7 points) | The risks identified were amongst the most critical for the success of the proposal. (8-9 points) | The biosafety problem identified is the most critical facing the laboratory. (10 points) | /10 |
| Describe a mitigation strategy to lower the impact of the risks identified. | The mitigation strategy does not address the underlying causes of the identified risks. (0-7 points) | The mitigation strategy addresses a few of the identified risks. (8-9 points) | The mitigation strategy completely address the root causes of the risks identified. (10 points) | /10 |
| Perform a risk assessment and identify the sources of risks associated with the proposed plan. | The risks identified was not the most critical for the success of the proposal. (0-7 points) | The risks identified were amongst the most critical for the success of the proposal. (8-9 points) | The biosafety problem identified is the most critical facing the laboratory. (10 points) | /10 |
| Describe a mitigation strategy to lower the impact of the risks identified. | The mitigation strategy does not address the underlying causes of the identified risks. (0-7 points) | The mitigation strategy addresses a few of the identified risks. (8-9 points) | The mitigation strategy completely address the root causes of the risks identified. (10 points) | /10 |
| **Total Points** | | | | /40 |

**DMP 893 Project #1 Rubric: Design of laboratory**

| Criteria | | Minimal | Average | Exceptional | Points |
|---|---|---|---|---|---|
| **Written Skills** | | | | | |
| Structure | | The written submission has a weak beginning, middle, and conclusion. The writing is not clear or concise. (0-7 points) | The written submission has an adequate beginning, middle, and conclusion. The writing is relatively clear and concise. (8-9 points) | The written submission has an appropriate beginning, middle, and conclusion. The writing is clear and concise. (10 points) | / 10 |
| Mechanics | | The writing has several major grammatical errors that are distracting to the reader. (0-7 points) | The writing is relatively free of grammatical errors. (8-9 points) | The writing contains no major grammatical errors. (10 points) | / 10 |
| **Content** | | | | | |
| Project Narrative | Backstory | The backstory is not clearly explained. (0-7 points) | The backstory is explained adequately. (8-9 points) | The backstory of the laboratory is explained fully, clearly, and concisely. (10 points) | / 10 |
| | Research Project in the Space | The research project is not clearly explained.(0-7 points) | The research project is explained adequately. (8-9 points) | The research project description is explained fully, clearly, and concisely. (10 points) | / 10 |
| Layout | Office and Admin Space | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| | BSL-2 Lab(s) | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| | BSL-3 Lab(s) | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |

| | | | | | |
|---|---|---|---|---|---|
| | Specialized Space #1 (required) | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| | Specialized Space #2 (optional) | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| | Support Space | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| Floorplans and Diagrams | Master Floorplan | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| | Air Handling Diagram | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
| | Liquid Waste Diagram | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
| | Solid Waste Diagram | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
| | Physical Security Measures Diagram | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
| | Primary Equipment Diagram / Furnish | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| Detailed Space Plans | BSL-2 Lab | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| | BSL-3 Lab | It is unclear how the space is designed or how it | The space is designed | The design of the space is clear and | / 10 |

| | | | | | |
|---|---|---|---|---|---|
| | | will be used. (0-7 points) | adequately. (8-9 points) | its intended use is evident. (10 points) | |
| | Specialized Space #1 | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| | Specialized Space #2 (optional) | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| **Total Points** | | | | | / 200 |

**DMP 893 Project #2 Rubric: In-Class Oral Presentation**

| Criteria | Minimal | Average | Exceptional | Points |
|---|---|---|---|---|
| **Verbal Skills** | | | | |
| Communication | The presented information was not articulated clearly. (0-7 points) | The presented information was articulated adequately. (8-9 points) | The presented information was articulated clearly and concisely. (10 points) | / 10 |
| Presentation | The presentation was outside of the allotted 60 – 70 minute time range, contained several misspelled words and grammatical errors, and was not professional. (0-7 points) | The presentation was within the allotted 60 – 70 minute time range, did not contain spelling or grammatical errors, and was somewhat professional. (8-9 points) | The presentation stayed within the 60 – 70 minute time range and was not rushed or too slow. It did not have spelling or grammatical errors, and was extremely professional. (10 points) | / 10 |
| Discussion | The discussion was limited due to the lack of questions from the presenter. (0-14 points) | The discussion was adequate and was instigated by questions from the presenter. The discussion stayed on topic. (15-18 points) | The discussion engaged the audience due to stimulating questions posed by the presenter. The discussion stayed on topic. (19-20 points) | / 20 |
| **Content** | | | | |
| Scholarship | The presenter provided an opinion or recommendation that was not justified by current research. No sources were cited. (0-42 points) | The presenter provided an opinion or recommendation that was justified by only a few cited sources. (43-54 points) | The presenter provided an opinion or recommendation that was well reasoned and supported by several cited sources. (55-60 points) | / 60 |
| **Total Points** | | | | /100 |

**DMP 895-B Project #2 Rubric: Project Notebook**

| Criteria | Minimal | Average | Exceptional | Points |
|---|---|---|---|---|
| **Written Skills** | | | | |
| Structure | The written submission has a weak beginning, middle, and conclusion. The writing is not clear or concise. (0-7 points) | The written submission has an adequate beginning, middle, and conclusion. The writing is relatively clear and concise. (8-9 points) | The written submission has an appropriate beginning, middle, and conclusion. The writing is clear and concise. (10 points) | / 10 |
| Mechanics | The writing has several major grammatical errors that are distracting to the reader. (0-7 points) | The writing is relatively free of grammatical errors. (8-9 points) | The writing contains no major grammatical errors. (10 points) | / 10 |
| **Content** | | | | |
| FSAP 1 Sec. 1C: Entity Abstract | The research project is not clearly explained.(0-7 points) | The research project is explained adequately. (8-9 points) | The research project description explained fully, clearly, and concisely. (10 points) | / 10 |
| FSAP 1 Sec. 7C: Description of Work | The research project is not clearly explained.(0-7 points) | The research project is explained adequately. (8-9 points) | The research project description is clear and concise. (10 points) | / 10 |
| FSAP 1 Attachment B: Dual Use Research of Concern (DURC) | The possible project DURC violations (if any) are not clearly explained. (0-7 points) | The possible project DURC violations (if any) are explained adequately. (8-9 points) | The possible project DURC violations (if any) are explained clearly and concisely. (10 points) | / 10 |
| FSAP 1 Pick one that applies: Attachment C, D, E, F, or G | The project specific procedures are not clearly explained. (0-7 points) | The project specific procedures are explained adequately. (8-9 points) | The project specific procedures are explained fully, clearly, and concisely. (10 points) | / 10 |
| SOP #1 | The project specific procedures are not clearly explained. (0-7 points) | The project specific procedures are explained adequately. (8-9 points) | The project specific procedures are explained fully, clearly, and concisely. (10 points) | / 10 |
| SOP #2 | The project specific procedures are not clearly explained. (0-7 points) | The project specific procedures are explained adequately. (8-9 points) | The project specific procedures are explained fully, clearly, and concisely. (10 points) | / 10 |
| SOP #3 | The project specific procedures are not | The project specific procedures are | The project specific procedures are | / 10 |

| | | | | |
|---|---|---|---|---|
| | clearly explained. (0-7 points) | explained adequately. (8-9 points) | explained fully, clearly, and concisely. (10 points) | |
| Biological Engagement Program (BEP) Abstract | BEP proposal not well explained.(0-7 points) | BEP proposal has plausible proposal. (8-9 points) | Clear and concise BEP proposal. (10 points) | / 10 |
| **Total Points** | | | | / 100 |

## SLO 3 Associated Rubrics

### DMP 690 Project Notebook Rubric

| Criteria | Minimal | Average | Exceptional | Points |
|---|---|---|---|---|
| **Written Skills** | | | | |
| Structure | The written submission has a weak beginning, middle, and conclusion. The writing is not clear or concise. (0-7 points) | The written submission has an adequate beginning, middle, and conclusion. The writing is relatively clear and concise. (8-9 points) | The written submission has an appropriate beginning, middle, and conclusion. The writing is clear and concise. (10 points) | / 10 |
| Mechanics | The writing has several major grammatical errors that are distracting to the reader. (0-7 points) | The writing is relatively free of grammatical errors. (8-9 points) | The writing contains no major grammatical errors. (10 points) | / 10 |
| **Content** | | | | |
| Project Description | The scope of the project is not clearly explained. (0-7 points) | The scope of the project is explained adequately. (8-9 points) | The scope of the project is explained fully, clearly, and concisely. (10 points) | / 10 |
| Place (Facility Design) | The overall facility design is not clearly explained. (0-7 points) | The overall facility design is explained adequately. (8-9 points) | The facility design description is explained fully, clearly, and concisely. (10 points) | / 10 |
| Protective Equipment | The project PPE requirements are not clearly explained. (0-7 points) | The project PPE requirements are explained adequately. (8-9 points) | The project PPE requirements are explained fully, clearly, and concisely. (10 points) | / 10 |
| Procedure and Work Practices (SOP#1) | The project specific procedures are not clearly explained. (0-7 points) | The project specific procedures are explained adequately. (8-9 points) | The project specific procedures are explained fully, clearly, and concisely. (10 points) | / 10 |
| Pathogen Description | The characteristics of the pathogen are not clearly explained. (0-7 points) | The pathogen characteristics are explained adequately. (8-9 points) | The pathogen characteristics are explained fully, clearly, and concisely. (10 points) | / 10 |

| | | | | |
|---|---|---|---|---|
| Procedures and Work Practices (Chemical Hygiene) | The project chemical requirements and hazards are not clearly explained. (0-7 points) | The project chemical requirements and hazards are explained adequately. (8-9 points) | The chemical requirements and hazards are explained fully, clearly, and concisely. (10 points) | / 10 |
| Procedure and Work Practices (SOP#1 Revision) | The project specific procedures are not clearly explained. (0-7 points) | The project specific procedures are explained adequately. (8-9 points) | The project specific procedures are explained fully, clearly, and concisely. (10 points) | / 10 |
| Procedure and Work Practices (SOP#2) | The project specific procedures are not clearly explained. (0-7 points) | The project specific procedures are explained adequately. (8-9 points) | The project specific procedures are explained fully, clearly, and concisely. (10 points) | / 10 |
| Procedure and Work Practices (SOP#3) | The project specific procedures are not clearly explained. (0-7 points) | The project specific procedures are explained adequately. (8-9 points) | The project specific procedures are explained fully, clearly, and concisely. (10 points) | / 10 |
| Personnel (Occupational Medicine Form) | The project occupational medical concerns are not clearly explained. (0-7 points) | The project occupational medical concerns are explained adequately. (8-9 points) | The project occupational medical concerns are explained fully, clearly, and concisely. (10 points) | / 10 |
| Procedures and Work Practices (IBC Form) | The project IBC requirements are not clearly explained. (0-28 points) | The project IBC requirements are explained adequately. (29-36 points) | The project IBC requirements are explained fully, clearly, and concisely. (37-40 points) | / 40 |
| Final Exam: IACUC Form | The project IACUC requirements are not clearly explained. (0-28 points) | The project IACUC requirements are explained adequately. (29-36 points) | The project IACUC requirements are explained fully, clearly, and concisely. (37-40 points) | / 40 |
| **Total Points** | | | | / 200 |

**DMP 691 In-Class Oral Presentation Rubric**

| Criteria | Minimal | Average | Exceptional | Points |
|---|---|---|---|---|
| **Verbal Skills** | | | | |
| Communication | The presented information was not articulated clearly. (0-7 points) | The presented information was articulated adequately. (8-9 points) | The presented information was articulated clearly and concisely. (10 points) | / 10 |
| Presentation | The presentation was outside of the allotted 15 – 20 minute time range, contained several misspelled words and grammatical errors, and was not professional. (0-7 points) | The presentation was within the allotted 15 – 20 minute time range, did not contain spelling or grammatical errors, and was somewhat professional. (8-9 points) | The presentation stayed within the 15 – 20 minute time range and was not rushed or too slow. It did not have spelling or grammatical errors and was extremely professional. (10 points) | / 10 |
| Discussion | The discussion was limited due to the lack of questions from the presenter. (0-14 points) | The discussion was adequate and was instigated by questions from the presenter. The discussion stayed on topic. (15-18 points) | The discussion engaged the audience due to stimulating questions posed by the presenter. The discussion stayed on topic. (19-20 points) | / 20 |
| **Content** | | | | |
| Scholarship | The presenter provided an opinion or recommendation that was not justified by current research. No sources were cited. (0-42 points) | The presenter provided an opinion or recommendation that was justified by only a few cited sources. (43-54 points) | The presenter provided an opinion or recommendation that was well reasoned and supported by several cited sources. (55-60 points) | / 60 |
| **Total Points** | | | | / 100 |

**DMP 846 Project 1 Part 1 Rubric: Personal Risk, Threat and Vulnerability Assessment**

| Criteria | Minimal | Average | Exceptional | Points |
|---|---|---|---|---|
| **Written Skills** | | | | |
| Structure | The written submission has a weak beginning, middle, and conclusion. The writing is not clear or concise. (0-7 points) | The written submission has an adequate beginning, middle, and conclusion. The writing is relatively clear and concise. (8-9 points) | The written submission has an appropriate beginning, middle, and conclusion. The writing is clear and concise. (10 points) | / 20 |
| Mechanics | The writing has several major grammatical errors that are distracting to the reader. (0-7 points) | The writing is relatively free of grammatical errors. (8-9 points) | The writing contains no major grammatical errors. (10 points) | / 20 |
| **Content** | | | | |
| Risk Assessment | The written submission presents limited information about the item and the risks (probability and consequence) associated with possessing it. (0-28 points) | The written submission presents adequate information about the item and the risks (probability and consequence) associated with possessing it. (29-37 points) | The written submission presents clear and concise information about the item and the risks (probability and consequence) associated with possessing it. (38-40 points) | / 40 |
| Threat Assessment | The written submission presents limited information about the item and the threats (probability and consequence) against it. (0-28 points) | The written submission presents adequate information about the item and the threats (probability and consequence) against it. (29-37 points) | The written submission presents clear and concise information about the item and the threats (probability and consequence) against it. (38-40 points) | / 40 |
| Vulnerability Assessment | The written submission presents limited information about the item and the vulnerabilities (probability and consequence) associated with possessing it. (0-28 points) | The written submission presents adequate information about the item and the vulnerabilities (probability and consequence) associated with possessing it. (29-37 points) | The written submission presents clear and concise information about the item and the vulnerabilities (probability and consequence) associated with possessing it. (38-40 points) | / 40 |

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|---|---|---|---|---|
| Risk Mitigation | The written submission presents fewer than 2 detailed, scholarly mitigation strategies for each assessment type. (0-28 points) | The written submission presents 2 detailed, scholarly mitigation strategies or 3 or more cursory mitigation strategies for each assessment type. (29-37 points) | The written submission presents 3 or more detailed, scholarly mitigation strategies for each assessment type. (38-40 points) | / 40 |
| **Total Points** | | | | / 200 |

**DMP 846 Project 1 Part 2 Rubric: In-Class Oral Presentation over enhancement of physical security features of laboratory to meet Tier 1 requirements**

| Criteria | Minimal | Average | Exceptional | Points |
|---|---|---|---|---|
| **Verbal Skills** | | | | |
| Communication | The presented information was not articulated clearly. (0-7 points) | The presented information was articulated adequately. (8-9 points) | The presented information was articulated clearly and concisely. (10 points) | / 10 |
| Presentation | The presentation was outside of the allotted 15 – 20 minute time range, contained several misspelled words and grammatical errors, and was not professional. (0-7 points) | The presentation was within the allotted 15 – 20 minute time range, did not contain spelling or grammatical errors, and was somewhat professional. (8-9 points) | The presentation stayed within the 15 – 20 minute time range and was not rushed or too slow. It did not have spelling or grammatical errors, and was extremely professional. (10 points) | / 10 |
| Discussion | The discussion was limited due to the lack of questions from the presenter. (0-14 points) | The discussion was adequate and was instigated by questions from the presenter. The discussion stayed on topic. (15-18 points) | The discussion engaged the audience due to stimulating questions posed by the presenter. The discussion stayed on topic. (19-20 points) | / 10 |
| **Content** | | | | |
| Barriers | There are less than 3 barriers are present in the laboratory between the outside and the BSAT. (0-29 points) | There are 3 barriers present in the laboratory, but they are inappropriate for Tier 1 regulations. (30-37 points) | There are 3 or more barriers present in the laboratory and they are appropriate for Tier 1 regulations. (38-40 points) | / 30 |
| Intrusion Detection System (IDS) | IDS is not present in the building or a type that is not Tier 1 approved is present. (0-21 points) | IDS is present in the laboratory, but it is placed inappropriately for Tier 1 regulations. (22-28 points) | IDS is present in the laboratory and is appropriate for Tier 1 regulations. (29 to 30 points) | / 40 |
| **Total Points** | | | | / 100 |

**DMP 893 Project #1 Rubric: Design of laboratory**

| Criteria | | Minimal | Average | Exceptional | Points |
|---|---|---|---|---|---|
| **Written Skills** | | | | | |
| Structure | | The written submission has a weak beginning, middle, and conclusion. The writing is not clear or concise. (0-7 points) | The written submission has an adequate beginning, middle, and conclusion. The writing is relatively clear and concise. (8-9 points) | The written submission has an appropriate beginning, middle, and conclusion. The writing is clear and concise. (10 points) | / 10 |
| Mechanics | | The writing has several major grammatical errors that are distracting to the reader. (0-7 points) | The writing is relatively free of grammatical errors. (8-9 points) | The writing contains no major grammatical errors. (10 points) | / 10 |
| **Content** | | | | | |
| Project Narrative | Backstory | The backstory is not clearly explained. (0-7 points) | The backstory is explained adequately. (8-9 points) | The backstory of the laboratory is explained fully, clearly, and concisely. (10 points) | / 10 |
| | Research Project in the Space | The research project is not clearly explained.(0-7 points) | The research project is explained adequately. (8-9 points) | The research project description is explained fully, clearly, and concisely. (10 points) | / 10 |
| Layout | Office and Admin Space | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| | BSL-2 Lab (s) | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| | BSL-3 Lab (s) | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |

| | | | | | |
|---|---|---|---|---|---|
| | Specialized Space #1 (required) | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| | Specialized Space #2 (optional) | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| | Support Space | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| Floorplans and Diagrams | Master Floorplan | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| | Air Handling Diagram | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
| | Liquid Waste Diagram | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
| | Solid Waste Diagram | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
| | Physical Security Measures Diagram | It is unclear how the system is designed or how it will be used. (0-7 points) | The system is designed adequately. (8-9 points) | The design of the system is clear and its intended use is evident. (10 points) | / 10 |
| | Primary Equipment Diagram / Furnish | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| Detailed Space Plans | BSL-2 Lab | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| | BSL-3 Lab | It is unclear how the space is designed or how | The space is designed | The design of the space is clear and its intended use is | / 10 |

| | | | | | |
|---|---|---|---|---|---|
| | | it will be used. (0-7 points) | adequately. (8-9 points) | evident. (10 points) | |
| | Specialized Space #1 | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| | Specialized Space #2 (optional) | It is unclear how the space is designed or how it will be used. (0-7 points) | The space is designed adequately. (8-9 points) | The design of the space is clear and its intended use is evident. (10 points) | / 10 |
| **Total Points** | | | | | / 200 |

**DMP 893 Project #2 Rubric: In-Class Oral Presentation**

| Criteria | Minimal | Average | Exceptional | Points |
|---|---|---|---|---|
| **Verbal Skills** | | | | |
| Communication | The presented information was not articulated clearly. (0-7 points) | The presented information was articulated adequately. (8-9 points) | The presented information was articulated clearly and concisely. (10 points) | / 10 |
| Presentation | The presentation was outside of the allotted 60 – 70 minute time range, contained several misspelled words and grammatical errors, and was not professional. (0-7 points) | The presentation was within the allotted 60 – 70 minute time range, did not contain spelling or grammatical errors, and was somewhat professional. (8-9 points) | The presentation stayed within the 60 – 70 minute time range and was not rushed or too slow. It did not have spelling or grammatical errors, and was extremely professional. (10 points) | / 10 |
| Discussion | The discussion was limited due to the lack of questions from the presenter. (0-14 points) | The discussion was adequate and was instigated by questions from the presenter. The discussion stayed on topic. (15-18 points) | The discussion engaged the audience due to stimulating questions posed by the presenter. The discussion stayed on topic. (19-20 points) | / 20 |
| **Content** | | | | |
| Scholarship | The presenter provided an opinion or recommendation that was not justified by current research. No sources were cited. (0-42 points) | The presenter provided an opinion or recommendation that was justified by only a few cited sources. (43-54 points) | The presenter provided an opinion or recommendation that was well reasoned and supported by several cited sources. (55-60 points) | / 60 |
| **Total Points** | | | | / 100 |

**DMP 895-B Project #1 Rubric: In-Class Oral Presentation, SME BSAT Topic**

| Criteria | Minimal | Average | Exceptional | Points |
|---|---|---|---|---|
| **Verbal Skills** | | | | |
| Communication | The presented information was not articulated clearly. (0-7 points) | The presented information was articulated adequately. (8-9 points) | The presented information was articulated clearly and concisely. (10 points) | / 10 |
| Presentation | The presentation was outside of the allotted 60 – 70 minute time range, contained several misspelled words and grammatical errors, and was not professional. (0-7 points) | The presentation was within the allotted 60 – 70 minute time range, did not contain spelling or grammatical errors, and was somewhat professional. (8-9 points) | The presentation stayed within the 60 – 70 minute time range and was not rushed or too slow. It did not have spelling or grammatical errors, and was extremely professional. (10 points) | / 10 |
| Discussion | The discussion was limited due to the lack of questions from the presenter. (0-14 points) | The discussion was adequate and was instigated by questions from the presenter. The discussion stayed on topic. (15-18 points) | The discussion engaged the audience due to stimulating questions posed by the presenter. The discussion stayed on topic. (19-20 points) | / 20 |
| **Content** | | | | |
| Scholarship | The presenter provided an opinion or recommendation that was not justified by current research. No sources were cited. (0-42 points) | The presenter provided an opinion or recommendation that was justified by only a few cited sources. (43-54 points) | The presenter provided an opinion or recommendation that was well reasoned and supported by several cited sources. (55-60 points) | / 60 |
| **Total Points** | | | | / 100 |

**DMP 895-B Project #2 Rubric: Project Notebook**

| Criteria | Minimal | Average | Exceptional | Points |
|---|---|---|---|---|
| **Written Skills** | | | | |
| Structure | The written submission has a weak beginning, middle, and conclusion. The writing is not clear or concise. (0-7 points) | The written submission has an adequate beginning, middle, and conclusion. The writing is relatively clear and concise. (8-9 points) | The written submission has an appropriate beginning, middle, and conclusion. The writing is clear and concise. (10 points) | / 10 |
| Mechanics | The writing has several major grammatical errors that are distracting to the reader. (0-7 points) | The writing is relatively free of grammatical errors. (8-9 points) | The writing contains no major grammatical errors. (10 points) | / 10 |
| **Content** | | | | |
| FSAP 1 Sec. 1C: Entity Abstract | The research project is not clearly explained. (0-7 points) | The research project is explained adequately. (8-9 points) | The research project description explained fully, clearly, and concisely. (10 points) | / 10 |
| FSAP 1 Sec. 7C: Description of Work | The research project is not clearly explained. (0-7 points) | The research project is explained adequately. (8-9 points) | The research project description is explained fully, clearly, and concisely. (10 points) | / 10 |
| FSAP 1 Attachment B: Dual Use Research of Concern (DURC) | The possible project DURC violations (if any) are not clearly explained. (0-7 points) | The possible project DURC violations (if any) are explained adequately. (8-9 points) | The possible project DURC violations (if any) are explained clearly and concisely. (10 points) | / 10 |
| FSAP 1 Pick one that applies: Attachment C, D, E, F, or G | The project specific procedures are not clearly explained. (0-7 points) | The project specific procedures are explained adequately. (8-9 points) | The project specific procedures are clear and concise. (10 points) | / 10 |
| SOP #1 | The project specific procedures are not clearly explained. (0-7 points) | The project specific procedures are explained adequately. (8-9 points) | The project specific procedures are clear and concise. (10 points) | / 10 |
| SOP #2 | The project specific procedures are not clearly explained. (0-7 points) | The project specific procedures are explained adequately. (8-9 points) | The project specific procedures are clear and concise. (10 points) | / 10 |
| SOP #3 | The project specific procedures are not clearly explained. (0-7 points) | The project specific procedures are explained adequately. (8-9 points) | The project specific procedures are clear and concise. (10 points) | / 10 |

| | | | | |
|---|---|---|---|---|
| Biological Engagement Program (BEP) Abstract | BEP proposal not well explained. (0-7 points) | BEP proposal has plausible proposal. (8-9 points) | Clear and concise BEP proposal. (10 points) | / 10 |
| **Total Points** | | | | / 100 |