

**Supplemental Information
Course and Curriculum items
FS Academic Affairs Committee Review
October 18, 2016 Meeting**

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College of Business Administration (9-22-16)

Curriculum Change

International Business Certificate - http://catalog.k-state.edu/preview_program.php?catoid=13&poid=3388

Change From:

Change To:

<p>International Business Certificate</p> <p>Foreign language requirement: Domestic student policy:</p> <ul style="list-style-type: none"> 6 credit hours of upper level courses (beyond Level 4) in the foreign language sequence. <p>International student policy:</p> <ul style="list-style-type: none"> The CIB requires proficiency in two languages. Therefore, students for whom English is not the primary language will complete a native language proficiency assessment through the Modern Languages Department to verify adequate proficiency in their native language. Students must pass the assessment to be able to use the indicated language as their native language for the CIB. An additional 6 credit hours of 300 level or higher course work focusing on communication or English writing and literature, American culture, history, society, geography or politics are required. Courses must be completed from two differents. Three hours must be from the Department of Communication Studies or the English Department and 3 hours from one of the other departments on the list. A list of approved electives is available in the Office of Student Services. <p>Required Courses:</p> <ul style="list-style-type: none"> GEOG 100 - World Regional Geography Credits: 3 MANGT 690 - International Management Credits: 3 MKTG 544 - International Marketing Credits: 3 <p>Select 3 hours from the following list:</p> <ul style="list-style-type: none"> ECON 681 - International Economics Credits: 3 ECON 682 - Development Economics Credits: 3 FINAN 643 - International Financial Management Credits: 3 <p>International Overlay Course</p>	<p>International Business Certificate</p> <p>Foreign language requirement: Domestic student policy:</p> <ul style="list-style-type: none"> 6 credit hours of upper level courses (beyond Level 4) in the foreign language sequence. <p>International student policy:</p> <ul style="list-style-type: none"> The CIB requires proficiency in two languages. Therefore, students for whom English is not the primary language will complete a native language proficiency assessment through the Modern Languages Department to verify adequate proficiency in their native language. Students must pass the assessment to be able to use the indicated language as their native language for the CIB. An additional 6 credit hours of 300 level or higher course work focusing on communication or English writing and literature, American culture, history, society, geography or politics are required. Courses must be completed from two <u>different areas</u>. Three hours must be from the Department of Communication Studies or the English Department and 3 hours from one of the other departments on the list. A list of approved electives is available in the Office of Student Services. <p>Required Courses:</p> <ul style="list-style-type: none"> GEOG 100 - World Regional Geography Credits: 3 MANGT <u>5</u>90 - International Management Credits: 3 MKTG 544 - International Marketing Credits: 3 <p>Select 3 hours from the following list:</p> <ul style="list-style-type: none"> ECON 681 - International Economics Credits: 3 ECON 682 - Development Economics Credits: 3 FINAN 643 - International Financial Management Credits: 3 <p>International Overlay Course</p>
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Select 3 hours from the CBA approved international overlay course list. This course cannot double count with any of the other course requirements for the CIB.

International Experience Requirement:

Domestic student policy:

- Participate in a study abroad/student exchange program OR an international internship (summer, semester or year) that carries a minimum of three (3) K-State credit hours.

International student policy:

- Studying at K-State will meet the international experience requirement.

Notes:

- Students must earn a minimum of a 2.50 grade point average on courses taken to fulfill the requirement of the CIB.
- No more than 25% of total credit hours required for the certificate program may be transfer hours. Student must earn at least 75% of credits that apply to the certificate program from Kansas State University OR an approved university affiliate of Kansas State University in a foreign country.
- ~~Certificate must be earned concurrently with degree. It cannot be completed after baccalaureate degree has been granted.~~
- The number of students admitted into the CIB will be based on resource availability.

Total Credit Hours: (15)

Select 3 hours from the CBA approved international overlay course list. This course cannot double count with any of the other course requirements for the CIB.

International Experience Requirement:

Domestic student policy:

- Participate in a study abroad/student exchange program OR an international internship (summer, semester or year) that carries a minimum of three (3) K-State credit hours.

International student policy:

- Studying at K-State will meet the international experience requirement.

Notes:

- Students must earn a minimum of a 2.50 grade point average on courses taken to fulfill the requirement of the CIB.
- No more than 25% of total credit hours required for the certificate program may be transfer hours. Student must earn at least 75% of credits that apply to the certificate program from Kansas State University OR an approved university affiliate of Kansas State University in a foreign country.
- Certificate can be completed by degree seeking students at Kansas State University or obtained as a credential on its own (free-standing). Students who do not intend to become a candidate for a bachelor's degree at Kansas State University must apply for admission as a non-degree, certificate-seeking student. Such students must submit the admission application, application fee, and transcripts. Applicants must provide documentation of high school or GED completion and, if college courses have been attempted, official transcripts demonstrating a cumulative GPA of 2.0 or higher for all post-secondary coursework. Students who later choose to pursue a bachelor's degree must apply for admission as a degree-seeking student.
- The number of students admitted into the CIB will be based on resource availability.

Total Credit Hours: (15)

Rationale:

Change is being made so certificate can be completed as a free-standing certificate by a non-degree seeking student.

Impact on Other Units

None

Effective Date

Spring 2017

College of Education (9-27-16)

Non-Expedited **Undergraduate New Courses** **Curriculum and Instruction**

#1 EDCI 505. Introduction to Online Teaching and Learning. (3) Summer, Intersessions. Provides an overview of the history, current status, and anticipated future directions of online teaching and learning (OTL). Examines the impact of OTL within K-12 contexts. Pre-Requisite: Admission to Teacher Education or valid K-12 teaching license.

IMPACT: No other academic unit will be impacted by this proposal.

RATIONALE: As today's K-12 schools become more receptive to online interactive learning, virtual schools represent a significant paradigm shift in delivering and acquiring knowledge. The proposed Online Teaching and Learning Certificate for Undergraduates prepares participants to design and teach online courses within K-12 settings. It is expected that the Kansas Department of Education (KSDE) will declare online teaching as a dedicated area of licensure in the near future; the Certificate will allow the K-State College of Education to position ourselves at the vanguard of this new era.

Following this rationale, we propose designing, developing, and implementing a new Online Teaching and Learning Certificate for Undergraduates. EDCI 505 is the first course within the proposed four-course, 12-credit program. Upon completing this program, participants will be able to create appropriate online environments to facilitate effective teaching and meaningful student learning in K-12 settings. Furthermore, the courses constituting the program will themselves serve as exemplars of effective online instruction.

EFFECTIVE DATE: Spring 2017

#2 EDCI 506. Online Instructional Design and Development I. (3) Summer, Intersessions. This course introduces participants to (a) key instructional systems design approaches to design and prototype online lessons for diverse learners and contexts, and (b) technology tools to develop and implement these lessons. Pre-Requisites: (1) Admission to Teacher Education or valid K-12 teaching license; (2) EDCI 505.

IMPACT: No other academic unit will be impacted by this proposal.

RATIONALE: As today's K-12 schools become more receptive to online interactive learning, virtual schools represent a significant paradigm shift in delivering and acquiring knowledge. The proposed Online Teaching and Learning Certificate for Undergraduates prepares participants to design and teach online courses within K-12 settings. It is expected that the Kansas Department of Education (KSDE) will declare online teaching as a dedicated area of licensure in the near future; the Certificate will allow the K-State College of Education to position ourselves at the vanguard of this new era.

Following this rationale, we propose designing, developing, and implementing a new Online Teaching and Learning Certificate for Undergraduates. EDCI 506 is the second course within the proposed four-course, 12-credit program. Upon completing this program, participants will be able to create appropriate online environments to facilitate effective teaching and meaningful student learning in K-12 settings. Furthermore, the courses constituting the program will themselves serve as exemplars of effective online instruction.

EFFECTIVE DATE: Spring 2017

#3 EDCI 507. Online Instructional Design and Development II. (3) Summer, Intersessions. Participants develop online teaching and learning modules employing a variety of technology tools. Pre-Requisites: (1) Admission to Teacher Education or valid K-12 teaching license; (2) EDCI 505; (3) EDCI 506.

IMPACT: No other academic unit will be impacted by this proposal.

RATIONALE: As today's K-12 schools become more receptive to online interactive learning, virtual schools represent a significant paradigm shift in delivering and acquiring knowledge. The proposed Online Teaching and Learning Certificate for Undergraduates prepares participants to design and teach online courses within K-12 settings. It is expected that the Kansas Department of Education (KSDE) will declare online teaching as a dedicated area of licensure in the near future; the Certificate will allow the K-State College of Education to position ourselves at the vanguard of this new era.

Following this rationale, we propose designing, developing, and implementing a new Online Teaching and Learning Certificate for Undergraduates. EDCI 507 is the third course within the proposed four-course, 12-credit program. Upon completing this program, participants will be able to create appropriate online environments to facilitate effective teaching and meaningful student learning in K-12 settings. Furthermore, the courses constituting the program will themselves serve as exemplars of effective online instruction.

EFFECTIVE DATE: Spring 2017

#4 EDCI 508. Online Teaching and Learning Practicum. (3) Summer, Intersessions. Participants create a full-fledged, multi-module online course that is ready to implement in a real-life instructional setting related to their current or prospective work contexts. Pre-Requisites: (1) Admission to Teacher Education or valid K-12 teaching license; (2) EDCI 505; (3) EDCI 506; (4) EDCI 507.

IMPACT: No other academic unit will be impacted by this proposal.

RATIONALE: As today's K-12 schools become more receptive to online interactive learning, virtual schools represent a significant paradigm shift in delivering and acquiring knowledge. The proposed Online Teaching and Learning Certificate for Undergraduates prepares participants to design and teach online courses within K-12 settings. It is expected that the Kansas Department of Education (KSDE) will declare online teaching as a dedicated area of licensure in the near future; the Certificate will allow the K-State College of Education to position ourselves at the vanguard of this new era.

Following this rationale, we propose designing, developing, and implementing a new Online Teaching and Learning Certificate for Undergraduates. EDCI 508 represents the final capstone experience within the proposed 12-credit program. Upon completing this program, participants will be able to create appropriate online environments to facilitate effective teaching and meaningful student learning in K-12 settings. Furthermore, the courses constituting the program will themselves serve as exemplars of effective online instruction.

EFFECTIVE DATE: Spring 2017

Non-Expedited **Undergraduate New Program** **Curriculum and Instruction**

Online Teaching and Learning Certificate for Undergraduates

This 12-credit Online Teaching and Learning Certificate for Undergraduates prepares participants to create appropriate online environments to facilitate effective teaching and meaningful student learning in K-12 settings.

Program Goals

- To provide a foundation in the pedagogy of online teaching and learning.
- To prepare undergraduates to create online courses, all built on up-to-date best practices in Learning Management Systems.
- To provide the knowledge and skills necessary to design, implement and teach effective online courses in the K-12 Virtual Schools.

Student Learning Objectives

Upon completing this 12-credit Certificate program, participants will be able to:

1. Explain the key principles and practices of effective online teaching. (Addressed in EDCI 505)
2. Analyze target online learner populations to determine their current knowledge gaps and ascertain their learning/performance needs. (Addressed in EDCI 506 & 508)
3. Design effective online instruction employing instructional and generative strategies that are appropriate to student learning objectives. (Addressed in EDCI 506 & 508)
4. Develop effective online instructional modules that feature the use of optimally appropriate media technologies. (Addressed in EDCI 507 & 508)
5. Plan for appropriate formative and summative evaluation of student learning and instructional effectiveness. (Addressed in EDCI 507 & 508)

Required Courses (12 credit hours)

EDCI 505: Introduction to Online Teaching and Learning (3 Credits)

EDCI 506: Online Instructional Design and Development I (3 Credits)

EDCI 507: Online Instructional Design and Development II (3 Credits)

EDCI 508: Online Teaching and Learning Practicum (3 Credits)

IMPACT: No other academic unit will be impacted by this proposal.

RATIONALE: As today's K-12 schools become more receptive to online interactive learning, virtual schools represent a significant paradigm shift in delivering and acquiring knowledge. The proposed Online Teaching and Learning Certificate for Undergraduates prepares participants to design and teach online courses within K-12 settings. It is expected that the Kansas Department of Education (KSDE) will declare online teaching as a dedicated area of licensure in the near future; the Certificate will allow the K-State College of Education to position ourselves at the vanguard of this new era.

EFFECTIVE DATE: Spring 2017

ADDENDUM

Undergraduate Educational Technology Certificate

Introduction—In response to questions from the Faculty Senate regarding the Undergraduate Educational Technology certificate, this document provides the Department of Curriculum and Instruction's responses to the specific areas that further clarification is desired. If further responses are needed, please contact, Dr. Brad Burenheide, Chair of COE Academic Affairs Committee.
bburen@ksu.edu

Assessment Procedures—In regards to the Assessment Plan, in Appendix A of this addendum a set of SLO's and courses have been aligned.

Delivery of Courses—The courses will be delivered online and specifically targeted during Intersessions and Summer semesters.

Estimated Budget and Staff—The courses will be offered online through KSU Continuing Education. These programs are self-sustaining and will not require additional funding. Furthermore, the current staff will be able to offer these classes through the unique terms which will not require additional staffing.

Targeted Student Enrollment—While open to students wanting only the online certificate, it will be targeted towards current students in the College of Education. To be eligible for the certificate, one must be admitted to the professional program or a current licensed teacher.

APPENDIX A

Educational Technology Undergraduate Certificate: Assessment Plan

EDCI 505

Learning Objectives

- LO1 Describe key considerations in the design and delivery of online teaching and learning (OTL) modules. [COE CF #3 & #11]
- LO2 Explain the major principles of OTL in K-12 settings. [COE CF #3 & #11]
- LO3 Describe the characteristics of the optimally effective virtual classroom. [COE CF #7 & #11]
- LO4 Distinguish between synchronous vs. asynchronous OTL. [COE CF #8 & #11]
- LO5 Explain the importance of complying with copyright and fair use regulations. [COE CF #9 & #12]
- LO6 Explain the importance of ensuring accessibility and equitable access to OTL modules. [COE CF #2 & #14]
- LO7 Formulate ways to enhance interactivity via the selection of appropriate teacher- and learner-centered strategies. [COE CF #8 & #15]
- LO8 Compare principles and practices of brick-and-mortar v. virtual online schools. [COE CF #3 & #11]
- LO9 Describe the key aptitudes, roles, competencies, and communication skills required of teachers planning to teach in virtual K-12 settings. [COE CF #9 & #15]

Assessments of Record

- Reflective Essay [Assesses LO1-LO9 above]
- Position Paper [Assesses LO1-LO9 above]
- Final Examination [Assesses LO1-LO9 above]

EDCI 506

Learning Objectives

- LO1 Analyze target online learner populations to determine their current knowledge gaps and ascertain their learning/performance needs. [COE CF #2 & #12]
- LO2 Design effective online instruction employing instructional and generative strategies that are appropriate to given student learning objectives. [COE CF #8 & #11]

Assessments of Record

- Instructional Analysis Document [Assesses LO1 above]
- Instructional Design Document [Assesses LO2 above]

EDCI 507

Learning Objectives

- LO1 Develop effective online instructional modules that feature the use of optimally appropriate media technologies. [COE CF #3 & #11]
- LO2 Plan for appropriate formative and summative evaluation of student learning and instructional effectiveness. [COE CF #6 & #15]

Assessments of Record

- Online Instructional Module-1 [Assesses LO1 & LO2 above]
- Online Instructional Module-2 [Assesses LO1 & LO2 above]

EDCI 508

Learning Objectives

- LO1 Analyze target online learner populations to determine their current knowledge gaps and ascertain their learning/performance needs. [COE CF #2 & #15]
- LO2 Design effective online instruction employing instructional and generative strategies that are appropriate to given student learning objectives. [COE CF #8 & #11]
- LO3 Develop effective online instructional modules that feature the use of optimally appropriate media technologies. [COE CF #3 & #11]
- LO4 Plan for appropriate formative and summative evaluation of student learning and instructional effectiveness. [COE CF #6 & #15]

Assessments of Record

- Multi-Module Online Course [Assesses LO1-LO4 above]
- Reflective Essay [Assesses LO1-LO4 above]

College of Arts and Sciences (9-28-16)

NON-EXPEDITED COURSE PROPOSALS

Courses Numbered 000-599

ART

ADD: ART 106 – Art Appreciation. (3) II. Introduction for non-art majors to basic elements (line, color, form, etc.) and principles (balance, repetition, proportion, etc.) of composition and explore some of the purposes (political, spiritual, philosophical, etc.) of art. Explore the relationship of art to historical contexts and examine the concept of style. Pr.: None. K-State 8: Aesthetic Interpretation.

K-STATE 8 RATIONALE: The course provides an introduction to the aesthetic interpretation of visual art.

RATIONALE: We do not currently offer an introductory course in understanding art for non-majors. This course will familiarize students with basic elements and principles of composition and explore some of the purposes of art, with the goal of increasing student's ability to think critically about images and how they communicate information. Students will also acquire knowledge of basic terms used to describe and analyze art and the various media and techniques through which works of art have been made.

IMPACT: None

EFFECTIVE DATE: Spring 2017

Dean of Arts and Sciences

ADD: DAS 475 – Nonviolence Studies: Women and Peace Movements. (3) I, II, S. Analyzes women and girls as leaders of diverse peace movements in the present and recent past. Pr.: DAS 355. K-State 8: Human Diversity within the US; Historical Perspectives.

K-STATE 8 RATIONALE: This course explores the diversity related to the role of women in peace movements and provides an important historic formation by examination of the historical context and biographies women in nonviolent movements.

RATIONALE: DAS 475 would allow students in the Nonviolence Studies Certificate Program (NVS) to have an additional core course that would apply toward the nine required credit hours of electives for the NVS certificate. The specific topic would also explore the important role women have played in the realm of Nonviolent activism.

IMPACT: None

EFFECTIVE DATE: Fall 2017

ADD: DAS 555 – Themes in Nonviolence Studies. (3) I, II, S. Explores nonviolence from a national and global perspective, with particular emphasis on emergent techniques and themes in nonviolence studies with particular emphasis on conflict resolution, peacekeeping and peacebuilding, and intersections of gender, race, class, ethnicity, and religion. Pr.: DAS 355 is recommended. K-State 8: Human Diversity within the US; Global Issues and Perspectives.

K-STATE 8 RATIONALE: The course topics are taught from global viewpoint and explore a range of international aspects of nonviolent perspectives and techniques and the “Global Issues and Perspectives” tag is appropriate. The “Human Diversity within the US” is appropriate as the course will also explore intersections of difference in relationship to nonviolence studies.

RATIONALE: DAS 555 would allow students in the Nonviolence Studies Certificate Program (NVS) to take additional course content that would apply toward the nine required credit hours of electives for the NVS certificate. This would also allow the NVS program to develop a new range of themes and course content that can vary with available faculty and capability. Currently most of the electives are cross-listed classes and the program does not have a stand-alone course of this nature.

IMPACT: None

EFFECTIVE DATE: Spring 2017

ADD: DAS 575 – Peacebuilding. (3) I, II, S. Explores how social problems, violence and war are generated and how people are working to build conditions that produce peace. Students will analyze peacebuilding efforts at home, in communities, in countries, in regions, and in the global social system. Pr.: None. K-State 8: Global Issues and Perspectives; Ethical Reasoning and Responsibility.

K-STATE 8 RATIONALE: This course utilizes a Global Perspective to explore peacebuilding programs and also explores ethics responsibility related to globalization, resource management and attempts to create a sustainable world.

RATIONALE: DAS 575 would allow students in the Nonviolence Studies Certificate Program (NVS) to have an additional course that would apply toward the nine required credit hours of electives for the NVS certificate. Peacebuilding at Home and in the World would also expose students to NVS content from a global social system perspective.

IMPACT: None

EFFECTIVE DATE: Fall 2017

English

ADD: ENGL 384 – Multicultural Children’s Literature. (3) I, II, S. Theories of differences and underrepresented experiences as related to, for example, ability, gender, ethnicity, and sexuality, through children’s literature. Pr.: None. K-State 8: Aesthetic Interpretation; Human Diversity within the US.

K-STATE 8 RATIONALE: As a literature course, multicultural children's literature considers aesthetic form and function and stimulates interpretation. As a course engaging with issues of diversity in children's literature, it offers insight into human diversity in the US.

RATIONALE: A class in multicultural children's literature supports the Department's 2025 plan to offer more courses on diverse literatures and to serve the needs of our majors and of Education students. Pilot versions of the course have affirmed the value and interest of such an offering to a diverse array of students. The Department of English also plans to develop a minor in children's literature in the future.

IMPACT: Education, American Ethnic Studies. Dr. Todd Goodson, College of Education has stated that there is no objection for the new course (dated December 18, 2015). Dr. Yolanda Broyles-Gonzalez, American Ethnic Studies, has commented that the course duplicates and overlaps with the specialization and courses taught by Dr. Isabel Millan and that they request the English Department coordinate with American Ethnic Studies in an effort to avoid offering our very similar course(es) in the same semester.

EFFECTIVE DATE: Spring 2017

Sociology, Anthropology, and Social Work

ADD: ANTH 351 – Special Studies in Anthropology. (1-3) Occasional. Explores topics in anthropology through guided field trips (study abroad or domestic excursion). (Repeatable course). K-State 8 – None. Pr.: None.

RATIONALE: The anthropology program would like to have an open-ended, non-specific course set aside for study abroad trips (or field excursions to distant domestic sites). The anthropologists at K-State work all over the world, from Asia to Africa, so it would be problematic to attach a geographic location to this course proposal. Since study abroad courses are not a usual part of our program, but we want to offer them when possible, we need a catch-all course that will accommodate any faculty who wants to offer a field study experience to students. We are renumbering our classes, and this class falls into the "multi-disciplinary" category, so it will count for elective credit, but not credit in a specific sub-field. We have attached a syllabus for a planned study abroad to Australia being proposed by a colleague for summer 2017.

IMPACT: None

EFFECTIVE DATE: Spring 2017

ADD: ANTH 388 **380** – Introduction to Human Evolution. (3) I. Survey of the human fossil record, including an introduction to evolutionary theory and a discussion of the place that humans occupy among the other primates. Pr.: None. K-State 8: Natural and Physical Sciences.

K-STATE 8 RATIONALE: This class will cover a variety of subjects in the natural and physical sciences, including basic genetics and mechanisms of inheritance, biology and behavior of primates, basic evolutionary theory, and the human fossil and archaeological record.

RATIONALE: The Anthropology program recently added a tenure-track faculty member with a specialty in Paleoanthropology (Human Evolution). This faculty addition provided an opportunity to add breadth to the course offerings in the subfield of biological anthropology. Due to the interest in the subject matter, this course provides an opportunity for non-majors without a background in anthropology to receive an introduction to evolutionary theory and the human fossil record in a course without prerequisites.

IMPACT: None

EFFECTIVE DATE: Fall 2017

NON-EXPEDITED CURRICULUM PROPOSALS

Undergraduate

English

English Minor

FROM:

~~Students have two options for the minor in English, one emphasizing literature, the other emphasizing writing.~~

Students must achieve a C or better in all courses taken for minor credit.

English minor with an emphasis in literature

- ENGL 310 – Introduction to Literary Studies **Credits:** (3)

Select two of the four American and/or British survey courses (6 credit hours)

Choose two:

- ENGL 361 – British Survey I **Credits:** (3)
- ENGL 362 – British Survey II **Credits:** (3)
- ENGL 381 – American Survey I **Credits:** (3)

TO:

Students have three options for the minor in English: emphasis in literature, emphasis in writing, and emphasis in children's and adolescent literature and culture.

Students must achieve a C or better in all courses taken for minor credit.

English minor with an emphasis in literature

- ENGL 310 – Introduction to Literary Studies **Credits:** (3)

Select two of the four American and/or British survey courses (6 credit hours)

Choose two:

- ENGL 361 – British Survey I **Credits:** (3)
- ENGL 362 – British Survey II **Credits:** (3)
- ENGL 381 – American Survey I **Credits:** (3)

<ul style="list-style-type: none"> • ENGL 382 – American Survey II Credits: (3) <p>Select two courses numbered 300–599 or above (6 credit hours)</p> <ul style="list-style-type: none"> • ENGL 315 – Introduction to Cultural Studies Credits: (3) • ENGL 325 – Literature and Technology Credits: (3) • ENGL 330 – Fiction Credits: (3) • ENGL 335 – Film Credits: (3) • ENGL 340 – Poetry Credits: (3) • ENGL 345 – Drama Credits: (3) • ENGL 350 – Introduction to Shakespeare Credits: (3) • ENGL 355 – Literature for Children Credits: (3) • ENGL 385 – Selected American Ethnic Literatures Credits: (3) • ENGL 386 – African American Literatures Credits: (3) • ENGL 387 – American Indian Literatures Credits: (3) • ENGL 388 – Asian American Literatures Credits: (3) • ENGL 389 – Latina/o Literatures Credits: (3) • ENGL 390 – Fable and Fantasy Credits: (3) • ENGL 395 – Topics in English Credits: (1–3) • ENGL 399 – Honors Seminar in English Credits: (1–3) • ENGL 420 – Topics in Film Credits: (3) • ENGL 430 – The Structure of English Credits: (3) • ENGL 440 – Themes in Literature Credits: (3) • ENGL 445 – Literary Kinds Credits: (3) 	<ul style="list-style-type: none"> • ENGL 382 – American Survey II Credits: (3) <p>Select two courses numbered 300–599 or above (6 credit hours)</p> <ul style="list-style-type: none"> • ENGL 315 – Introduction to Cultural Studies Credits: (3) • ENGL 325 – Literature and Technology Credits: (3) • ENGL 330 – Fiction Credits: (3) • ENGL 335 – Film Credits: (3) • ENGL 340 – Poetry Credits: (3) • ENGL 345 – Drama Credits: (3) • ENGL 350 – Introduction to Shakespeare Credits: (3) • ENGL 355 – Literature for Children Credits: (3) • ENGL 385 – Selected American Ethnic Literatures Credits: (3) • ENGL 386 – African American Literatures Credits: (3) • ENGL 387 – American Indian Literatures Credits: (3) • ENGL 388 – Asian American Literatures Credits: (3) • ENGL 389 – Latina/o Literatures Credits: (3) • ENGL 390 – Fable and Fantasy Credits: (3) • ENGL 395 – Topics in English Credits: (1–3) • ENGL 399 – Honors Seminar in English Credits: (1–3) • ENGL 420 – Topics in Film Credits: (3) • ENGL 430 – The Structure of English Credits: (3) • ENGL 440 – Themes in Literature Credits: (3) • ENGL 445 – Literary Kinds Credits: (3)
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- ENGL 450 – Literature and Society **Credits:** (3)
- ENGL 461 – Introduction to Fiction Writing **Credits:** (3)
- ENGL 463 – Introduction to Poetry Writing **Credits:** (3)
- ENGL 465 – Introduction to Creative Nonfiction **Credits:** (3)
- ENGL 525 – Women in Literature **Credits:** (3)
- ENGL 545 – Literature for Adolescents **Credits:** (3)
- ENGL 570 – Law, Politics, and Literature **Credits:** (3)
- ENGL 580 – Selected World Literature **Credits:** (3)
- ENGL 599 – Special Research in English **Credits:** (1–18)

Select one literature course numbered 600 or above (3 credit hours)

- ENGL 605 – Readings in Medieval Literature **Credits:** (3)
- ENGL 610 – Readings in Renaissance Literature **Credits:** (3)
- ENGL 620 – Readings in Seventeenth-Century British Literature **Credits:** (3)
- ENGL 625 – Readings in Eighteenth-Century British Literature **Credits:** (3)
- ENGL 630 – Readings in Nineteenth-Century British Literature **Credits:** (3)
- ENGL 635 – Readings in Twentieth-Century British Literature **Credits:** (3)
- ENGL 640 – Readings in Early American Literature **Credits:** (3)
- ENGL 645 – Readings in Nineteenth-Century American Literature **Credits:** (3)
- ENGL 650 – Readings in Twentieth-Century American Literature **Credits:** (3)

- ENGL 450 – Literature and Society **Credits:** (3)
- ENGL 461 – Introduction to Fiction Writing **Credits:** (3)
- ENGL 463 – Introduction to Poetry Writing **Credits:** (3)
- ENGL 465 – Introduction to Creative Nonfiction **Credits:** (3)
- ENGL 525 – Women in Literature **Credits:** (3)
- ENGL 545 – Literature for Adolescents **Credits:** (3)
- ENGL 570 – Law, Politics, and Literature **Credits:** (3)
- ENGL 580 – Selected World Literature **Credits:** (3)
- ENGL 599 – Special Research in English **Credits:** (1–18)

Select one literature course numbered 600 or above (3 credit hours)

- ENGL 605 – Readings in Medieval Literature **Credits:** (3)
- ENGL 610 – Readings in Renaissance Literature **Credits:** (3)
- ENGL 620 – Readings in Seventeenth-Century British Literature **Credits:** (3)
- ENGL 625 – Readings in Eighteenth-Century British Literature **Credits:** (3)
- ENGL 630 – Readings in Nineteenth-Century British Literature **Credits:** (3)
- ENGL 635 – Readings in Twentieth-Century British Literature **Credits:** (3)
- ENGL 640 – Readings in Early American Literature **Credits:** (3)
- ENGL 645 – Readings in Nineteenth-Century American Literature **Credits:** (3)
- ENGL 650 – Readings in Twentieth-Century American Literature **Credits:** (3)

- ENGL 655 – Readings in American Ethnic Literature **Credits:** (3)
- ENGL 660 – Readings in Major Authors **Credits:** (3)
- ENGL 670 – Topics in British Literature **Credits:** (3)
- ENGL 680 – Topics in American Literature **Credits:** (3)
- ENGL 690 – Topics in Literature for the Young **Credits:** (3)
- ENGL 695 – Topics in Literature **Credits:** (3)
- ENGL 700 – Old English **Credits:** (3)
- ENGL 703 – Critical Approaches to Children's Literature **Credits:** (3)

English minor with an emphasis in writing

- ENGL 310 – Introduction to Literary Studies **Credits:** (3)

Select one American or British survey course (3 credit hours)

- ENGL 361 – British Survey I **Credits:** (3)
- ENGL 362 – British Survey II **Credits:** (3)
- ENGL 381 – American Survey I **Credits:** (3)
- ENGL 382 – American Survey II **Credits:** (3)

Select any four writing courses (12 credit hours)

One of these courses must be numbered 600 or above.

- ENGL 300 – Expository Writing III **Credits:** (3)

- ENGL 655 – Readings in American Ethnic Literature **Credits:** (3)
- ENGL 660 – Readings in Major Authors **Credits:** (3)
- ENGL 670 – Topics in British Literature **Credits:** (3)
- ENGL 680 – Topics in American Literature **Credits:** (3)
- ENGL 690 – Topics in Literature for the Young **Credits:** (3)
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English minor with an emphasis in writing

- ENGL 310 – Introduction to Literary Studies **Credits:** (3)

Select one American or British survey course (3 credit hours)

- ENGL 361 – British Survey I **Credits:** (3)
- ENGL 362 – British Survey II **Credits:** (3)
- ENGL 381 – American Survey I **Credits:** (3)
- ENGL 382 – American Survey II **Credits:** (3)

Select any four writing courses (12 credit hours)

One of these courses must be numbered 600 or above.

- ENGL 300 – Expository Writing III **Credits:** (3)

<ul style="list-style-type: none"> • ENGL 400 – Advanced Expository Writing for Prospective Teachers Credits: (3) • ENGL 455 – Exploring Creativity Credits: (3) • ENGL 461 – Introduction to Fiction Writing Credits: (3) • ENGL 463 – Introduction to Poetry Writing Credits: (3) • ENGL 465 – Introduction to Creative Nonfiction Credits: (3) • ENGL 469 – Special Topics in Creative Writing Credits: (3) • ENGL 500 – Writing Center Theory and Practice Credits: (3) • ENGL 510 – Introduction to Professional Writing Credits: (3) • ENGL 516 – Written Communication for the Sciences Credits: (3) • ENGL 604 – Expository Writing Workshop Credits: (3) • ENGL 661 – Advanced Creative Writing: Prose Fiction Credits: (3) • ENGL 663 – Advanced Creative Writing: Poetry Credits: (3) • ENGL 665 – Advanced Creative Writing: Nonfiction Credits: (3) • ENGL 755 – Studies in Composition and Rhetoric Credits: (3) • ENGL 761 – Creative Writing Workshop: Short Fiction Credits: (3) • ENGL 762 – Advanced Playwriting Credits: (3) • ENGL 763 – Creative Writing Workshop: Poetry Credits: (3) • ENGL 765 – Creative Writing Workshop: Creative Nonfiction Credits: (3) • ENGL 769 – Creative Writing Workshop/Special Topic Credits: (3) • ENGL 771 – Creative Writing Workshop: Novel/Novella Credits: (3) 	<ul style="list-style-type: none"> • ENGL 400 – Advanced Expository Writing for Prospective Teachers Credits: (3) • ENGL 455 – Exploring Creativity Credits: (3) • ENGL 461 – Introduction to Fiction Writing Credits: (3) • ENGL 463 – Introduction to Poetry Writing Credits: (3) • ENGL 465 – Introduction to Creative Nonfiction Credits: (3) • ENGL 469 – Special Topics in Creative Writing Credits: (3) • ENGL 500 – Writing Center Theory and Practice Credits: (3) • ENGL 510 – Introduction to Professional Writing Credits: (3) • ENGL 516 – Written Communication for the Sciences Credits: (3) • ENGL 604 – Expository Writing Workshop Credits: (3) • ENGL 661 – Advanced Creative Writing: Prose Fiction Credits: (3) • ENGL 663 – Advanced Creative Writing: Poetry Credits: (3) • ENGL 665 – Advanced Creative Writing: Nonfiction Credits: (3) • ENGL 755 – Studies in Composition and Rhetoric Credits: (3) • ENGL 761 – Creative Writing Workshop: Short Fiction Credits: (3) • ENGL 762 – Advanced Playwriting Credits: (3) • ENGL 763 – Creative Writing Workshop: Poetry Credits: (3) • ENGL 765 – Creative Writing Workshop: Creative Nonfiction Credits: (3) • ENGL 769 – Creative Writing Workshop/Special Topic Credits: (3) • ENGL 771 – Creative Writing Workshop: Novel/Novella Credits: (3)
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Note:

Course is open only to engineering majors.

- ENGL 415 – Written Communication for Engineers **Credits: (3)**

Total credit hours: (18)

Note:

Course is open only to engineering majors.

- ENGL 415 – Written Communication for Engineers **Credits: (3)**

English Minor with an emphasis in Children's and Young Adult Literature and Culture

Required courses (12 credit hours):

- ENGL 310 – Introduction to Literary Studies **Credits: (3)**
- ENGL 355 – Literature for Children **Credits: (3)**
- ENGL 384 – Multicultural Children's Literature **Credits: (3)**
- ENGL 545 – Literature for Adolescents **Credits: (3)**

Electives (6 credit hours)

Electives may be chosen from any English course with a focus on children's or young adult literature and culture in consultation with an English Department advisor.

One elective from an ENGL course numbered 315–599 **Credits: (3)**

Depending on topic, possibilities may include, but are not limited to

- ENGL 390 – Fable and Fantasy **Credits: (3)**
- ENGL 420 – Topics in Film **Credits: (3)**
- ENGL 440 – Themes in Literature **Credits: (3)**
- ENGL 445 – Literary Kinds **Credits: (3)**
- ENGL 450 – Literature and Society **Credits: (3)**

	<p><u>One elective from an ENGL course numbered 600–799 Credits: (3)</u></p> <p><u>Depending on topic, possibilities may include, but are not limited to</u></p> <ul style="list-style-type: none"> • <u>ENGL 630 – Readings in Nineteenth Century British Literature Credits: (3)</u> • <u>ENGL 670 – Topics in British Literature Credits: (3)</u> • <u>ENGL 680 – Topics in American Literature Credits: (3)</u> • <u>ENGL 695 – Topics in Literature Credits: (3)</u> • <u>ENGL 703 – Critical Approaches to Children’s Literature Credits: (3)</u> • <u>ENGL 710 – Studies in a Literary Genre Credits: (3)</u> • <u>ENGL 720 – Studies in a Major Author Credits: (3)</u> • <u>ENGL 725 – Studies in Children’s/Young Adult Literature Credits: (3)</u> • <u>ENGL 730 – Studies in a Literary Period Credits: (3)</u> <p>Total credit hours: (18)</p>
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RATIONALE: Part of the English Department’s 2025 Plan is to implement a minor in children’s literature. The initiative reflects the Department’s strengths, and it offers a way for students in English, Education, Human Ecology, and other fields to register a concentration in the area.

IMPACT: None

EFFECTIVE DATE: Spring 2017

Nonviolence Studies Certificate

FROM:

TO:

To earn the Certificate in Nonviolence Studies (NVS), students will examine violence and nonviolence within a holistic context. Students will look at social justice issues as they relate to individuals, the community, and the world. Students will take a comprehensive and far-reaching view of issues as they exist within the context of the culture and the world that surrounds them—as they exist through time and within a continuum that includes the precursors that lead to actual physical violence. They will imagine ways to apply nonviolence methodology to achieve better “cultural and social health” similarly to the way “public health” officials apply a preventative, contextual model.

Upon completion of an undergraduate certificate in nonviolence studies, student will be able to demonstrate their understanding of:

- systems theory
- the differences between a mechanistic and organic worldview
- basic anthropological perspectives and concepts of holism
- history and theories of past and current nonviolence movements, including major writers
- their positionality in the social order and in what ways their life choices make a difference

their ability to apply:

- the concepts and methodologies of nonviolent resistance and direct action
- holistic thinking to human issues ranging from local to global

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their ability to apply:

- the concepts and methodologies of nonviolent resistance and direct action
- holistic thinking to human issues ranging from local to global

- the basic skills of conflict resolution, mediation, and arbitration
- critical thinking to real-world issues

General requirements

Course requirements (6 credit hours)

- DAS 355 – Introduction to Nonviolence Studies **Credits: 3**
-
- **And One Capstone class:**
- DAS 455 – Violence, Nonviolence and Social Change **Credits: 3**
- or
- DAS 590 – Applied Nonviolence **Credits: 3**

Electives (9 credit hours)

Selected from a list of courses that have been approved by Arts and Sciences Dean in past:

- ANTH 200 – Introduction to Cultural Anthropology **Credits: 3**
- CNRES 531 – Core Conflict Resolution **Credits: 3**
- CNRES 532 – Conflict Resolution across Cultures & Contexts **Credits: 3**
- CNRES 533 – Prevention & Intervention of Violence **Credits: 3**
- COMM 322 – Interpersonal Communication **Credits: 3**
- COMM 480 – Intercultural Communication **Credits: 3**
- DANCE 325 – Ballet II **Credits: 2** (Anatomy for Dancers)
- EDCEP 311 – Interaction and Guidance for the Paraprofessional **Credits: 3** (Proactive Educators for the

- the basic skills of conflict resolution, mediation, and arbitration
- critical thinking to real-world issues

General requirements

Course requirements (6 credit hours)

- DAS 355 – Introduction to Nonviolence Studies **Credits: 3**
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- **And One Capstone class:**
- DAS 455 – Violence, Nonviolence and Social Change **Credits: 3**
- or
- DAS 590 – Applied Nonviolence **Credits: 3**

Electives (9 credit hours)

Selected from a list of courses that have been approved by Arts and Sciences Dean in past:

- ANTH 200 – Introduction to Cultural Anthropology **Credits: 3**
- CNRES 531 – Core Conflict Resolution **Credits: 3**
- CNRES 532 – Conflict Resolution across Cultures & Contexts **Credits: 3**
- CNRES 533 – Prevention & Intervention of Violence **Credits: 3**
- COMM 322 – Interpersonal Communication **Credits: 3**
- COMM 480 – Intercultural Communication **Credits: 3**
- DANCE 325 – Ballet II **Credits: 2** (Anatomy for Dancers)
- DAS 475 – Nonviolence Studies: Women and Peace Movements **Credits: (3)**

<p>Elimination of Rape and Sexual Violence)</p> <ul style="list-style-type: none"> • FSHS 700 – Problems in Family Studies and Human Services Credits: 1–18 (Peace and Conflict) • GWSS 105 – Introduction to Gender, Women, and Sexuality Studies Credits: 3 • GWSS 380 – Women and Global Social Change Credits: 3 • GWSS 480 – Seminar in Gender, Environment & Justice Credits: 3 (Women and Environmentalism) • GWSS 700 – Advanced Topics in Gender, Women, and Sexuality Studies Credits: 1–3 (Independent Study in Nonviolence Studies) • IAPD 391 – Topics in Contemporary Design Seminar Credits: 3 • LEAD 502 – Independent Study in Leadership Studies Credits: 0–3 (International Community Service Seminar) • SOCIO 363 – Global Problems Credits: 3 • SOCIO 500 – Sociological Perspectives on Contemporary Issues Credits: 1–18 (Human Trafficking) • SOCIO 507 – International Development and Social Change Credits: 3 • SOCIO 423 – Methods of Social Research I Credits: 4 • SOCIO 545 – The Sociology of Women Credits: 3 • SOCIO 633 – Gender, Power, and International Development Credits: 3 • SOCIO 635 – Sociology of Human Trafficking Credits: 3 • SOCWK 100 – Social Work: The Helping Profession Credits: 3 	<ul style="list-style-type: none"> • <u>DAS 555 – Themes in Nonviolence Studies Credits: (3)</u> • <u>DAS 575 – Peacebuilding at Home and in the World Credits: (3)</u> • EDCEP 311 – Interaction and Guidance for the Paraprofessional Credits: 3 (Proactive Educators for the Elimination of Rape and Sexual Violence) • FSHS 700 – Problems in Family Studies and Human Services Credits: 1–18 (Peace and Conflict) • GWSS 105 – Introduction to Gender, Women, and Sexuality Studies Credits: 3 • GWSS 380 – Women and Global Social Change Credits: 3 • GWSS 480 – Seminar in Gender, Environment & Justice Credits: 3 (Women and Environmentalism) • GWSS 700 – Advanced Topics in Gender, Women, and Sexuality Studies Credits: 1–3 (Independent Study in Nonviolence Studies) • IAPD 391 – Topics in Contemporary Design Seminar Credits: 3 • LEAD 502 – Independent Study in Leadership Studies Credits: 0–3 (International Community Service Seminar) • SOCIO 363 – Global Problems Credits: 3 • SOCIO 500 – Sociological Perspectives on Contemporary Issues Credits: 1–18 (Human Trafficking) • SOCIO 507 – International Development and Social Change Credits: 3 • SOCIO 423 – Methods of Social Research I Credits: 4
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<ul style="list-style-type: none"> • SOCWK 568 – Social Work Practice III Credits: 3 • THTRE 664 – Creative Drama Credits: 3 • THTRE 665 – Drama Therapy with Special Populations Credits: 3 <p>Total credit hours: (15)</p>	<ul style="list-style-type: none"> • SOCIO 545 – The Sociology of Women Credits: 3 • SOCIO 633 – Gender, Power, and International Development Credits: 3 • SOCIO 635 – Sociology of Human Trafficking Credits: 3 • SOCWK 100 – Social Work: The Helping Profession Credits: 3 • SOCWK 568 – Social Work Practice III Credits: 3 • THTRE 664 – Creative Drama Credits: 3 • THTRE 665 – Drama Therapy with Special Populations Credits: 3 <p>Total credit hours: (15)</p>
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RATIONALE: The course additions are offered as additional courses to the nine hours of elective content students may apply toward a Certificate in Nonviolence Studies.

IMPACT: None

EFFECTIVE DATE: Fall 2017

College of Architecture, Planning, and Design (10-6-16)

Non-Expedited Proposals – Courses Numbered 000-599

Department of Landscape Architecture and Regional & Community Planning (Master of Landscape Architecture Program, Non- & Post-Baccalaureate)

New Courses

Effective: Spring 2017

Impact on other units: None

Course:	LAR 311 Unlocking Creativity
Catalog Description:	Do you want to become creative? Good news, you already are! For students in all majors, this course is designed to help you access your creative potential and become more imaginative, innovative, and courageous. Learning outcomes include overcoming blocks, refining your creative process, practicing activities to enhance creativity, and effectively communicating ideas.
Credits:	(3)
When Offered:	Fall, Spring
K-State 8:	Aesthetic Interpretation; Empirical and Quantitative Reasoning
K-State 8 Tag Rationale:	<i>(1) Aesthetic Interpretation: Unlocking Creativity provides students with experiences to develop their understanding and responsiveness to literature and visual arts, and to a smaller extent performing arts. In the course, students will: Interpret artistic works of art and graphic communication; Read and create works of literature including observational writing, self-reflection, and poetry; Develop critical thinking in aesthetics by engaging in activities of drawing, diagramming, creative public presentation techniques, and film-making. (2) Empirical and Quantitative Reasoning: The course provides students with experiences to develop their abilities to gather information, develop and evaluate alternatives, and consider potential outcomes. In the course, students will: Learn about a variety of creative problem-solving processes and working methods; Engage in investigative processes aimed at deriving novel, tenable, and valuable solutions; Develop an individual creativity ethos and creative problem-solving process.</i>
Rationale:	<i>Course has been offered under a topics number but we would like the course to have its own course number in order to cover K-State 8 tags. Two course numbers would be bound so that it may be taken as either undergraduate (311) or graduate credit (811).</i>

Course:	LAR 580 Planning & Design Intro to GIS
Catalog Description:	This course will provide students with the essential background in geospatial analysis and information systems for the design and planning fields. Students will learn basics about data models and management, vector and raster analysis and cartography. Students will learn how to use these skills to develop suitability analyses to evaluate the performance of plans and designs or to identify which location would be best for a particular purpose.
Credits:	(2)
When Offered:	Fall, Spring, Summer
K-State 8:	Empirical and Quantitative Reasoning
K-State 8 Tag Rationale:	<i>The course gives students the opportunity to collect, analyze and synthesize spatial data through a structured suitability modeling exercise. Students will use spatial analytical techniques, mathematical logic, and cartographic techniques to identify critical needs for planning and communicate those needs through maps.</i>
Rationale:	<i>Splitting LAR 704 (currently a 5 credit hour course) into two separate laboratory and studio based courses to provide students more flexibility.</i>

Graduate Course additions (10-4-16)

Veterinary Medicine – Department of Anatomy & Physiology

ADD: AP 873. Physiologically Based Pharmacokinetic Modeling. (4) II. This modeling course is designed for life science graduate students with an interest in computational toxicology and pharmacology. Development of physiologically based pharmacokinetic (PBPK) models for environmental chemicals, drugs, and nanomaterials in laboratory animals, food-producing animals, companion animals, and/or humans will be introduced. Applications of PBPK models in food safety, toxicology, risk assessment, and pharmaceutical industry will be discussed. This course will cover theory, application software, experimental design, model development, optimization, validation, evaluation, and extrapolation. The expected outcome is that the student will have PBPK modeling knowledge and skills to develop a PBPK model with some mentoring from an experienced PBPK modeler. Format will include both weekly lectures and hands-on computer lab exercises.

Course objectives:

- (1) To provide the student with working knowledge of physiologically based pharmacokinetic models and their applications in toxicology
- (2) To provide students with the technical ability to develop PBPK models for use in their graduate research and careers

Course evaluation:

- (1) Grades will be determined from two written tests (20% each), computer lab simulation exercises/assignments (20%), a project presentation which demonstrates the development of a PBPK model and the application of the PBPK model in toxicology (40%).
- (2) All grading will be administered through K-State online.

Pr: Consent of instructor and 1 semester of calculus, physiology, pharmacology, pharmacokinetics, toxicology or biochemistry.

RATIONALE: Physiologically based pharmacokinetic (PBPK) models are widely recognized as helpful and necessary tools in the fields of drug development, risk assessment, nanomedicine, and food safety. Due to its wide applications, there is a need of PBPK modelers in the job market. Currently, there is a shortage of education or systemic training programs for the next generation of PBPK modelers and no semester-based comprehensive “PBPK modeling” course in any universities in the U.S. This is because the majority of senior PBPK modelers are working in industry, governmental agencies, national laboratories, or nonprofit research organizations, where the major mission is to apply PBPK modeling techniques, not to teach. Some short-term training workshops are offered, and they are very popular, but the workshops do not provide not enough time to train a qualified PBPK modeler. This course is a key course of the proposed Institute of Computational Comparative Medicine’s online graduate program in Computational Comparative Medicine.

Impact (i.e. if this impacts another college/unit): None

EFFECTIVE DATE: Spring 2017

ADD: AP 875. Structure-Based Drug Design. (3) II. This course is designed for students in the life or physical sciences with interest in computational medicine and drug design. The course focuses on the basics of protein architecture and the thermodynamics of protein–ligand binding, virtual screening of drug candidates, modeling of unknown protein structure, the pharmacophore concept, explicit-solvent molecular dynamics simulation, the thermodynamics of protein–ligand association, and free-energy calculation techniques. For each of these topics, practical knowledge is developed through computer-based practical exercises using professional and academic grade software. In addition to treating the traditional focus of drug design, i.e. maximizing the binding affinity of a candidate drug for the target biomolecule, the course also addresses the increasing use of similar techniques for predicting other interactions important for the safety and efficacy of a drug, such as screening for side effects due to interactions with off-target biomolecules. PR: permission of the instructor or 1 semester of introductory computer programming, numerical methods, or other course involving computer programming (e.g. statistics courses using R)

Course Objectives:

- (1) Provide the student with basic knowledge of protein–ligand binding and drug design concepts
- (2) Enable the student to effectively use computational tools to predict protein–ligand interaction and apply these predictions to drug design
- (3) Give the student the ability to apply the tools and concepts of this course in their graduate research and careers

Course Evaluation:

Grades will be determined from two written tests (10% each), weekly computer-based laboratory assignments (50%), and a final drug design project (30%).

RATIONALE: Structure-based drug design makes use of three-dimensional structures of biomolecules to rationally design pharmaceutical compounds, invariably requiring computer modeling to visualize and analyze these structures and understand their interactions with candidate drugs. There is demand for structural and computational drug design skills in the job market; for instance, searches on NatureJobs or LinkedIn regularly turn up postings by pharmaceutical companies looking for applicants with experience in "computational chemistry" and "computer-aided drug design."

Although it was noted as long ago as 2004 in the journal Science (DOI: 10.1126/science.1096361) that "all top pharmaceutical companies have substantial structural biology and computational chemistry groups," few opportunities exist at US universities to learn the concepts and computational tools of structure-based drug design. As another indication of demand for educational opportunities covering the topics of the proposed course, The American Chemical Society offers similarly named, two-day "Structure Based Drug Design" course. The University of Massachusetts Amherst has intermittently offered a "Drug Design Course", which seems have two lectures structure-based drug design. However, it seems that the proposed course would be unique in allotting a full semester to structure-based drug design and the associated computational tools.

This course will be a core focus for the development of an online certificate program in Computational Comparative Medicine.

Impact (i.e. if this impacts another college/unit): None

EFFECTIVE DATE: Spring 2017