

COLLEGE OF ARTS AND SCIENCES  
COURSE AND CURRICULUM CHANGES

Approved at the College Faculty Meeting

February 5, 2015  
Eisenhower 015

4:00 p.m.

Undergraduate/Graduate  
Non-Expedited

Contact Person: Jeffrey Smith  
532-6900  
e-mail: [solt@ksu.edu](mailto:solt@ksu.edu)

Units outside the College of Arts and Sciences affected:  
Graduate School; College of Architecture, Planning and Design;  
College of Agriculture; College of Business Administration;  
College of Human Ecology; College of Engineering; Staley School  
of Leadership Studies.

Please provide the sponsors of a proposal change with any  
information regarding fiscal or programmatic impact on your  
department, program or students

# NON-EXPEDITED COURSE PROPOSALS

## Courses Numbered 000-599

### **American Ethnic Studies**

FROM: AMETH 450 – ~~Comparative Ethnic Studies II. (3) I, II, S. A comparative introduction to cultural forms including literature, music, theater, folklore, media arts, and oral history from a variety of U.S. ethnic groups. An analysis of how race and ethnicity intersect with gender, sexuality, and social class, and how systems of power and inequality are constructed, reinforced, and challenged.~~ Pr.: AMETH 160. K-State 8: ~~Aesthetic Interpretation; Human Diversity within the US.~~

TO: AMETH 450 – Comparative Ethnic Studies. (3) I, II, S. Provides a comparative framework for understanding both the specificities within and the differences between the situations of racially marginalized groups in the U.S. and beyond. Pr.: AMETH 160. K-State 8: Human Diversity within the US; Global Issues and Perspectives.

K-State 8 RATIONALE: Course compares ethnic and racialized groups within and outside the U.S. from a socio-historical perspective.

RATIONALE: To merge Comparative Ethnic Studies I and II into a new course, which consists of a new course description and objectives.

IMPACT: None

EFFECTIVE DATE: Fall 2015

ADD: AMETH 461 – Transformative Thought. (3) I, II, S. Engages a range of advanced theories and critical concepts in American Ethnic Studies, including the intersections of race, ethnicity, gender, class, indigeneity, (dis)ability, citizenship, and sexuality. K-State 8: Human Diversity within the US; Ethical Reasoning and Responsibility.

K-State 8 RATIONALE: This course will assist students in developing a heightened awareness of how diverse ethnicities and racial formations shape their sense of self in relation to diverse others. This course offers multiple critical lenses through which students must come to understand the world around them and how differently located perspectives require suspending assumptions and

applying others that alter one's sense of justice, crime, resistance, ethics and truth.

RATIONALE: This course is being added as a necessary step in the required coursework for the major to introduce students to advanced theoretical perspectives in the field of American Ethnic Studies. The course builds toward the two-course "capstone" sequence (AMETH 550 and AMETH 650) and will prepare students to formulate critical research questions and pursue advanced research methods with an American Ethnic Study lens.

IMPACT: None

EFFECTIVE DATE: Fall 2015

FROM: ~~AMETH 550 – Research Methods in American Ethnic Studies. (3) I. This course provides a broad overview of social research methods pertinent to the study of ethnicity and culture. Students will be introduced to qualitative and quantitative methods of research, including oral history interviews, ethnographic observation/field research, surveys, and experimentation. Pr.: AMETH 160, AMETH 459, AMETH 450. K-State 8: Empirical and Quantitative Reasoning.~~

TO: AMETH 550 – Popular Paths to Knowledge. (3) I, II, S. Introduction to decolonial methodologies, participatory action research, popular education, and oral histories. Students will generate a prospectus for an independent research project that will be completed in the capstone seminar. Pr.: AMETH 160. K-State 8: Empirical and Quantitative Reasoning; Social Sciences.

K-State 8 RATIONALE: This course interrogates and applies empirical and quantitative research methods within the social sciences and the humanities.

RATIONALE: The current title "Research Methods in American Ethnic Studies" is not an accurate reference for the current course content and approach. This prerequisite for AMETH 660 (senior capstone) critiques traditional scientific quantitative research methods and introduces students to the rigor of qualitative study of knowledge generated in the voices, needs, concerns and perspectives of the underserved majority. These paths to knowledge are more accurately understood in American Ethnic Studies as "popular" (in terms of the Latin phrase *vox populi*, translated as "voices of the people") than as "research methods", which could imply traditional quantitative inquiry only.

IMPACT: None

EFFECTIVE DATE: Fall 2016

## Dean of Arts and Sciences

ADD: DAS 195 – CAT Community Connections. (1-3) I, II. Interdisciplinary course that explores the connections among two different fields, courses, or disciplines. For first-year students enrolled in a specific CAT Community linked to the College of Arts and Sciences.

RATIONALE: We've been using DAS 199 Selected Topics number for this course since 2010. The CAT Communities are now well established, with 34 planned for 2015-16. The course needs its own permanent course designation in the catalog.

IMPACT: None. Colleges of Architecture, Planning and Design, Agriculture, Business Administration, Human Ecology, and Engineering were contacted. Colleges of Business, Agriculture, Human Ecology and Architecture, Planning and Design have all approved the addition of this course. There has been no response from the College of Engineering.

EFFECTIVE DATE: Fall 2015

## Geology

FROM: GEOL 103 – Geology Laboratory. (1) I, II, S. ~~Field and laboratory investigation of minerals, rocks, and fossils; use of maps; environmental studies, erosion, transportation, sedimentation. K-State 8: Empirical and Quantitative Reasoning. Natural and Physical Sciences. Pr. or CoR: GEOL 100, GEOL 102, GEOL 105, GEOL 125.~~

TO: GEOL 103 – Geology Laboratory. (1) I, II, S. Laboratory investigation of rocks and minerals; use of geologic and topographic maps; understanding of stream and groundwater processes and landforms. K-State 8: Natural and Physical Sciences. Pr. or CoR: GEOL 100, GEOL 102, or GEOL 125.

RATIONALE: The change is being made in response to recommendations of an external curriculum review. The GEOL 103 lab activities were viewed as too remote from the course content for GEOL 105 (Oceanography) to make this a viable pre- or co-requisite.

IMPACT: This change should have minimal impact on other departments.

EFFECTIVE DATE: Fall 2015

## History

**ADD:** HIST 549 – Modern Africa from 1850. (3) I, II, or S. Introduction to modern African history since 1850. Key topics include the establishment and impact of the colonial empires that dominated Africa between the 1880s and 1960s; the process of decolonization; African responses to colonial rule; and the development of post-Independence Africa with a special emphasis on the challenges faced by African countries. Pr.: Sophomore standing recommended. K-State 8: Global Issues and Perspectives; Historical Perspectives.

**K-State 8 Rationale:** The course explores Africa on a world stage, and therefore speaks to global issues while focusing on the history of the region.

**RATIONALE:** The department does not currently offer a course focused on African history. In addition to expanding the department's geographical coverage to include a currently uncovered region that has over 1 billion people, this class will complement existing strengths in European, Asian history, and Middle Eastern history through its focus on imperialism and its effects. It will count toward the "non-western" history overlay within the major, a category that is critical to our major providing diverse subject matter.

**IMPACT:** No Impact.

**EFFECTIVE DATE:** Fall 2015

## Sociology, Anthropology, and Social Work

**ADD:** SOCIO 540 – Sexuality and Society. (3) S. Overview of key concepts related to sexuality studies and examination of social and cultural constructions of sexuality. Discussion of issues of power, inequalities, and social control. Pr.: SOCIO 211. K-State 8: Social Sciences; Human Diversity within the US.

**K-State 8 RATIONALE:** This is a course in sociology of sexuality, and it is closely related to social sciences. The course extensively covers the topic of human diversity in terms of sexuality.

**RATIONALE:** The proposed course is directly related to strategic goals of Sociology program. Since one of our areas of specialization is sociology of gender and inequalities, it is reasonable and beneficial to add a sociological course on sexuality to our existing curriculum. This upper undergraduate course will give students more options in crafting their educational careers. The course can be a part of the Interdisciplinary Social Science degree offered by KSU. Finally, this course will contribute to K-State's thematic goal of undergraduate

educational experience by providing an interesting and innovative course on sociology of sexuality.

IMPACT: The course will primarily focus on sociological aspects of sexuality studies and will not impact other programs or units.

EFFECTIVE DATE: Summer 2015

# NON-EXPEDITED COURSE PROPOSALS

## Courses Numbered 600-999

### **American Ethnic Studies**

Withdrawn

### **Communication Studies**

**ADD:** COMM 790 – Dialogue, Deliberation, and Public Engagement: Theoretical Foundations. (4) I. Explores the conceptual and theoretical underpinnings of the Dialogue, Deliberation, and Public Engagement field, including group theory, civic space, and deliberative democracy.

**RATIONALE:** This survey course explores the conceptual and theoretical underpinnings of the Dialogue, Deliberation, and Public Engagement field. It is the foundational course for the DDPE certificate.

**IMPACT:** We do not anticipate the curriculum to conflict with other K-State offerings. This curriculum focuses on the communication processes of dialogue and deliberation that are germane to communication studies. We contacted the two other departments on campus that are communication focused, Agricultural Communications and JMC. In addition, we reached out to the Political Science Department and School of Leadership Studies due to their work in public administration and engagement.

Contact list:

Dr. Kristina Boone, Head, Communications and Agricultural Education (letter of support attached)

Dr. Mary Tolar, Director, Staley School of Leadership Studies (letter of support attached)

Dr. Birgit Wasmuth, Director, A.Q. Miller School of Journalism and Mass Communications (e-mailed proposal 10-3-14, no response)

Dr. Jeffrey Pickering, Head, Political Science (affirmative response to proposal on 10-24-14)

**EFFECTIVE DATE:** Fall 2015

**ADD:** COMM 791 – Dialogue, Deliberation, and Public Engagement: Process Models. (3) January Intersession. A survey of and introduction to the variety of process models for Dialogue, Deliberation, and Public Engagement, including the

following: National Issues Forums, World Café, Sustained Dialogue, Appreciative Inquiry, 21<sup>st</sup> Century Town Hall. Pr.: COMM 790.

**RATIONALE:** This survey course explores the process models employed in the Dialogue, Deliberation, and Public Engagement field. It is the second of four sequential courses for the DDPE certificate.

**IMPACT:** We do not anticipate the curriculum to conflict with other K-State offerings. This curriculum focuses on the communication processes of dialogue and deliberation that are germane to communication studies. We contacted the two other departments on campus that are communication focused, Agricultural Communications and JMC. In addition, we reached out to the Political Science Department and School of Leadership Studies due to their work in public administration and engagement.

Contact list:

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Dr. Jeffrey Pickering, Head, Political Science (affirmative response to proposal on 10-24-14)

**EFFECTIVE DATE:** Fall 2015

**ADD:** COMM 792 – Dialogue, Deliberation, and Public Engagement: Core Skills and Strategies. (4) II. Instruction in the assessment of situations and application of theoretical and conceptual frameworks for DDPE to real-world contexts and scenarios. Pr.: COMM 790 & COMM 791.

**RATIONALE:** This course focuses on the application of dialogue & deliberation theories and processes to public engagement efforts. This is the third of four sequential courses for the DDPE certificate.

**IMPACT:** We do not anticipate the curriculum to conflict with other K-State offerings. This curriculum focuses on the communication processes of dialogue and deliberation that are germane to communication studies. We contacted the two other departments on campus that are communication focused, Agricultural Communications and JMC. In addition, we reached out to the Political Science Department and School of Leadership Studies due to their work in public administration and engagement.

Contact list:

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Dr. Mary Tolar, Director, Staley School of Leadership Studies (letter of support attached)

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Dr. Jeffrey Pickering, Head, Political Science (affirmative response to proposal on 10-24-14)

EFFECTIVE DATE: Fall 2015

ADD: COMM 793 – Dialogue, Deliberation, and Public Engagement: Capstone Experience. (1) S, May Intersession. Focuses on the individualized goals, objectives, and interests of the student, designed to integrate insights from the courses on theoretical foundations, process models, and conceptual frameworks for evaluation and design. Students will meet face-to-face with national leaders to present their research. Pr.: COMM 790, COMM 791, and COMM 792.

RATIONALE: This capstone course offers students an opportunity to present and receive feedback on their DDPE project proposal from experts in the field. This is the fourth of four sequential courses for the DDPE certificate.

IMPACT: We do not anticipate the curriculum to conflict with other K-State offerings. This curriculum focuses on the communication processes of dialogue and deliberation that are germane to communication studies. We contacted the two other departments on campus that are communication focused, Agricultural Communications and JMC. In addition, we reached out to the Political Science Department and School of Leadership Studies due to their work in public administration and engagement.

Contact list:

Dr. Kristina Boone, Head, Communications and Agricultural Education (letter of support attached)

Dr. Mary Tolar, Director, Staley School of Leadership Studies (letter of support attached)

Dr. Birgit Wasmuth, Director, A.Q. Miller School of Journalism and Mass Communications (e-mailed proposal 10-3-14, no response)

Dr. Jeffrey Pickering, Head, Political Science (affirmative response to proposal on 10-24-14)

EFFECTIVE DATE: Fall 2015

## **Geography**

ADD: GEOG 706 – Biophysical Remote Sensing. (3) I, II. An advanced seminar covering methods and models for retrieving quantitative information about the Earth's surface from remotely sensed data. Topics covered will include

inversion techniques for determining surface radiance and reflectance, correction of atmospheric effects, theory of vegetation indices and their use in empirical determination of canopy properties, canopy models and their inversion, and the use of hyperspectral data for retrieval of surface biophysical information. Pr.: GEOG 605. Other requirements: A course in a physical or biological science, Math 210 or 220, or equivalent.

**RATIONALE:** Since its introduction in Fall, 2008, this course has been taught as a version of Geography 711, Topics in Remote Sensing. Currently, the Topics course encompasses several different versions, including Thematic Remote Sensing, UAV Remote Sensing, and Digital Image Processing. Students who wish to do extensive coursework in remote sensing are therefore required to repeat this particular class several times, which can result in difficulties with conforming to departmental and graduate school rules for repeating courses under the same number or title. Offering this course under its own number and title would eliminate these problems. Offering this course under its own, dedicated number also “frees up” GEOG 711 for its original purpose, which was to offer specialized courses in remote sensing topics. Retaining a 700-level course number allows the class to be taken by both undergraduate and graduate students.

**IMPACT:** None

**EFFECTIVE DATE:** Fall 2015

## **Geology**

**ADD:** GEOL 735 – Fossil Fuel Sedimentology. (3) I. An introduction to organic matter and fossil fuels as components of sedimentary rocks. Pr.: CHM 230, GEOL 630.

**RATIONALE:** Fossil Fuel Sedimentology has been offered as a Geology 790-, Studies in Geology, course each fall since the 2010-2011 academic year. Over that time, it has become very popular with students whose career destination is the energy sector (i.e., the majority of our students), regularly exceeding minimum enrollment numbers for a course at this level. The Geology Department intends to continue to offer this course on an annual basis. Therefore, it is now timely to establish Fossil Fuel Sedimentology as its own, rather than a generic “problems” course.

**IMPACT:** Currently, students who enroll in Fossil Fuel Sedimentology as a Geology 790 (Problems in Geology) course must get approval from the university so that taking Fossil Fuel Sedimentology does not adversely affect how many 790-level courses they are permitted to take. Most Geology 790 (Problems in Geology) courses involve an independent project undertaken by the student. Fossil Fuel Sedimentology is taught as a traditional in-class course, and would be more

appropriately described with its own unique course number. I (the instructor, Dr. M. Lambert) propose GEOL 735 as the course number in order to preserve it as a 700-level offering, reflecting its relevance and accessibility to both upper-level undergraduates and graduate students.

EFFECTIVE DATE: Fall 2015

ADD: GEOL 738 – Formation Evaluation. (3) I. Investigates projects on well log interpretation, petro-physical calculations, log corrections, and post-drilling decision workflows through lectures, discussions, laboratory exercises, or field trips. Pr.: GEOL 730.

RATIONALE: A course in Formation Evaluation was initiated within the Geology Department curriculum in 2010 in response to growing demand from students interested in careers in the energy sector. The course has maintained its popularity over this time period and the department intends to continue to offer this course on an annual basis. Therefore, it is now timely to establish Formation Evaluation as a course in its own right rather than a generic “problems” course.

IMPACT: Establishing this course under its own course number will only have positive impacts. There are no negative repercussions envisaged for any other departments within the university. The Head of Department is fully supportive of this change.

EFFECTIVE DATE: Fall 2015

FROM: ~~GEOL 743~~ – Introduction to Geophysics. (3) I. Introduction to geophysics, its uses in studies of the earth’s interior, its utility for illuminating subsurface geological features, and its applications in fields such as groundwater studies and the development of energy resources. Pr.: PHYS 114, MATH 220.

TO: GEOL 640 - Introduction to Geophysics. (3) I. Introduction to geophysics, its uses in studies of the earth’s interior, its utility for illuminating subsurface geological features, and its applications in fields such as groundwater studies and the development of energy resources. Pr.: PHYS 114 or PHYS 214; MATH 220.

RATIONALE: The change requested is needed to better reflect syllabus changes as well as respond to departmental curriculum changes in response to recommendations by an external curriculum review committee.

IMPACT: The proposed change should have no impact on other departments within the university beyond Geology. Head of Department contacted on 02 November 2014.

EFFECTIVE DATE: Fall 2015

ADD: GEOL 835 – Advanced Petroleum Exploration, Imperial Barrel Award Competition. (3) I. Evaluation of exploration prospects in frontier and underdeveloped petroleum provinces using borehole-derived and geophysical data. Team taught courses that uses industry provided datasets and current data management and interpretation software to reach drill or no-drill decisions based on science, risk analysis, and economics.

RATIONALE: This course will provide access for KSU Geology graduate students to the highly successful AAPG Imperial Barrel Award competition. This includes access to industry data that students will evaluate using the most modern techniques and software. In addition to the capstone-like academic component of the course, the enrolled students will have an opportunity to successfully present their results in a highly visible, industry attended event during the competition.

IMPACT: There are no negative repercussions envisaged for any other department within the university. The Head of Department is fully supportive of this change.

EFFECTIVE DATE: Fall 2015

## **History**

ADD: HIST 855 – History and Security: Modern Africa since 1850. (3) I, or II. Focuses on major political events and their repercussions. Key topics include war in African history, the creation and administration of colonial empires, decolonization, and the political and security struggles of the post-independence era.

RATIONALE: This course will be available to both History graduate students and Security studies students. It will be valuable to History graduate students who wish to develop a field in African or world history, and Security Studies students seeking to understand the long-term political and security situation in Africa. The department needs a Security Studies course focused on African history to complement existing regional courses in Asian, Middle Eastern, Latin American and European regions.

IMPACT: No impact on other units.

EFFECTIVE DATE: Fall 2015



# NON-EXPEDITED CURRICULUM PROPOSALS

## Undergraduate

American Ethnic Studies Minor

FROM:

TO:

<b>Program requirements</b>	<b>Program requirements</b>
<hr style="border: 1px solid black; margin-bottom: 10px;"/> <p>Students completing 15 credit hours of course work <del>in a minimum of two departments</del> may earn a minor in American ethnic studies. Students pursuing a minor are advised in the American Ethnic Studies office.</p> <p><b>Course requirements for the minor</b></p> <hr style="border: 1px solid black; margin-bottom: 10px;"/> <ul style="list-style-type: none"> <li>• See the list of electives for the <del>AMETH major</del> <b>Credits: (9)</b></li> <li>• <del>AMETH 160 – Introduction to American Ethnic Studies</del> <b>Credits: (3)</b></li> <li>• <del>ANTH 200 – Introduction to Cultural Anthropology</del> <b>Credits: (3)</b></li> <li>• <del>or</del></li> <li>• <del>ANTH 210 – Introduction to Cultural Anthropology, Honors</del> <b>Credits: (3)</b></li> </ul> <p><b>Total credit hours: (15)</b></p>	<hr style="border: 1px solid black; margin-bottom: 10px;"/> <p>Students completing 15 credit hours of course work may earn a minor in American Ethnic Studies. <u>The course requirements are:</u></p> <p><u>Required Core (6 credit hours)</u></p> <p><u>AMETH 160 – Introduction to American Ethnic Studies</u> <b>Credits: (3)</b></p> <p><u>AMETH 351 – African American Perspectives</u> <b>Credits: (3)</b></p> <p><u>Or</u></p> <p><u>AMETH 352 – American Indian Perspectives</u> <b>Credits: (3)</b></p> <p><u>Or</u></p> <p><u>AMETH 353 – Latina/o Perspectives</u> <b>Credits: (3)</b></p> <p><u>Or</u></p> <p><u>AMETH 354 – Asian American Perspectives</u> <b>Credits: (3)</b></p> <p><u>Electives (9 credit hours)</u></p> <p><u>Any three additional courses within AMETH</u></p> <p>TOTAL credit hours: (15)</p> <p><u>American Ethnic Studies emerged in universities as a response to a community-based demand from civil rights movements to include the perspectives of communities of color historically erased, socially dismissed, and institutionally underrepresented. A minor in American Ethnic Studies teaches university students to think critically about the multifaceted</u></p>

	<u>realities and identities of Americas' diverse ethnicities; promotes social justice ideals and practices of inclusivity; fosters community-based engaged research and praxis responsive to the needs and realities of underserved constituencies; and foregrounds the needs, concerns, and knowledge of historically underrepresented peoples of color in Kansas.</u>
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RATIONALE: Revised curriculum and updated minor description and requirements.

IMPACT: None

EFFECTIVE DATE: Fall 2015

## Biochemistry and Molecular Biophysics

B.A. in Biochemistry

FROM:

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.

**Bachelor's degree requirements**  
 General requirements for undergraduate major:  
~~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

TO:

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.

**Bachelor's degree requirements**  
 General requirements for undergraduate major:  
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.  
 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.

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 Biochem & Society Credits (3)

BIOCH521 Gen Biochemistry Credits (3)

BIOCH522 Gen Biochemistry Lab Credits (2)

BIOCH 755 - Biochemistry I Credits: (3)

BIOCH 765 - Biochemistry II Credits: (3)

BIOL 198 - Principles of Biology Credits: (4)

BIOL450 Modern Genetics Credits: (4)

BIOL455 General Microbiology Credits: (4)

BIOL541 Cell Biology Credits: (3)

CHM 210 - Chemistry I Credits: (4)

CHM 230 - Chemistry II Credits: (4)

CHM 371 - Chemical Analysis Credits: (4)

CHM350 Gen Org Chem Credits: (3)

CHM351 Gen Org Lab Credits: (2)

MATH 220 - Analytic Geometry and Calculus 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)

STAT703 Stat Methods for Nat Scientists Credits (3)

~~\*Upper division biochemistry, chemistry, biological science, statistics, computer science, analytical geometry and calculus III, or differential equations elective Credits: (19)~~

Note: These courses satisfy the

BIOCH 110 Biochem & Society Credits (3)  
BIOCH521 Gen Biochemistry Credits (3)  
BIOCH522 Gen Biochemistry Lab Credits (2)  
BIOCH 755 - Biochemistry I Credits: (3)  
BIOCH 765 - Biochemistry II Credits: (3)

BIOL 198 - Principles of Biology Credits: (4)  
BIOL450 Modern Genetics Credits: (4)  
BIOL455 General Microbiology Credits: (4)  
BIOL541 Cell Biology Credits: (3)

CHM 210 - Chemistry I Credits: (4)  
CHM 230 - Chemistry II Credits: (4)  
CHM 371 - Chemical Analysis Credits: (4)  
CHM350 Gen Org Chem Credits: (3)  
CHM351 Gen Org Lab Credits: (2)

MATH 220 - Analytic Geometry and Calculus 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)

STAT703 Stat Methods for Nat Scientists Credits (3)

\*Any upper division elective credits in any College (20)

Note: These courses satisfy the mathematics and natural science requirements shown in the general requirements for the BA degree.

A&S requirements Credits (32)  
Level 4 Foreign language Credits (4)

Total hours required for graduation (121 credit hours)

<p>mathematics and natural science requirements shown in the general requirements for the BA degree.</p> <p>A&amp;S requirements Credits (32) Level 4 Foreign language Credits (4)</p> <p><del>Total hours required for graduation (120 credit hours)</del></p>	
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**RATIONALE:** Biochemistry and Molecular Biophysics seeks approval for the modification of its basic B.A. degree program. After input from students in our programs, and ensuing faculty discussions, we propose to change the upper division elective requirements (20 credits) in this curriculum, opening them to include any upper division elective credits in any College. We find this change more consistent with the broad academic scope of a Bachelor of Arts degree, and suggest that it will also facilitate the achievement of dual major degrees by students with more diverse or complex academic adjectives.

**IMPACT:** The changes potentially involve additional enrollment in classes from other departments and colleges across the K-State campus. But, BMB currently has 85 undergraduate majors, so we do not expect a dramatic increase in any specific classes. Aside from these ramifications we do anticipate that changes will affect other units. Colleges across campus have been notified.

**EFFECTIVE DATE:** Fall 2015

B.A. in Biochemistry, Medical Biochemistry Track

**FROM:**

**TO:**

<p>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.</p> <p><b>Bachelor's degree requirements</b> General requirements for undergraduate major: A total of 121 credit hours are required for</p>	<p>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.</p> <p><b>Bachelor's degree requirements</b> General requirements for undergraduate major: A total of 121 credit hours are required for</p>
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<p>graduation. The BA program, Medical Track, is obtained by following the curriculum of the College of Arts and Sciences.</p> <p>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.</p> <p>BIOCH 110 Biochem &amp; Society Credits (3)          BIOCH 521 - Gen Biochemistry Credits (3)          BIOCH 522 - Gen Biochemistry Lab Credits (2)          BIOCH 571 - Medical Biochemistry Credits: (3)          (BIOCH 755 Biochemistry I: (3))#          (BIOCH 799 Biochemistry Research (1-3)) #</p> <p>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 (4)</p> <p>CHM 210 - Chemistry I Credits: (4)          CHM 230 - Chemistry II Credits: (4)          CHM 371 - Chemical Analysis Credits: (4)          CHM 350 - Gen Org Chem Credits: (3)          CHM 351 - Gen Org Lab Credits: (2)</p> <p>MATH 220 - Analytic Geometry and Calculus Credits: (4)</p> <p>PHYS 113 - General Physics I Credits: (4)          PHYS 114 - General Physics II Credits: (4)</p> <p>STAT 340 Biometrics I Credits (3)          (STAT 341 Biometrics I: credits (3)) #</p> <p><del>*Upper division biochemistry, chemistry, biological science, statistics, computer science, analytical geometry and calculus III, or differential equations elective Credits: (20)</del></p> <p># The Medical Biochemistry BA plan requires one of the following three classes: STAT 341 (Biometrics II), BIOCH 755 (Biochemistry I) or BIOCH 799 (Biochemistry Research).</p>	<p>graduation. The BA program, Medical Track, is obtained by following the curriculum of the College of Arts and Sciences.</p> <p>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.</p> <p>BIOCH 110 Biochem &amp; Society Credits (3)          BIOCH 521 - Gen Biochemistry Credits (3)          BIOCH 522 - Gen Biochemistry Lab Credits (2)          BIOCH 571 - Medical Biochemistry Credits: (3)          (BIOCH 755 Biochemistry I: (3))#          (BIOCH 799 Biochemistry Research (1-3)) #</p> <p>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 (4)</p> <p>CHM 210 - Chemistry I Credits: (4)          CHM 230 - Chemistry II Credits: (4)          CHM 371 - Chemical Analysis Credits: (4)          CHM 350 - Gen Org Chem Credits: (3)          CHM 351 - Gen Org Lab Credits: (2)</p> <p>MATH 220 - Analytic Geometry and Calculus Credits: (4)</p> <p>PHYS 113 - General Physics I Credits: (4)          PHYS 114 - General Physics II Credits: (4)</p> <p>STAT 340 Biometrics I Credits (3)          (STAT 341 Biometrics I: credits (3)) #</p> <p><u>**Any upper division elective credits in any College (20)</u></p> <p># The Medical Biochemistry BA plan requires one of the following three classes: STAT 341 (Biometrics II), BIOCH 755 (Biochemistry I) or BIOCH 799 (Biochemistry Research).</p>
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<p>Note: The courses above satisfy the mathematics and natural science requirements shown in the general requirements for the BA degree.</p> <p>A&amp;S requirements Credits (32) For BA degree: Level 4 Foreign language Credits (4)</p> <p>Total hours required for graduation (121 credit hours)</p>	<p>Note: The courses above satisfy the mathematics and natural science requirements shown in the general requirements for the BA degree.</p> <p>A&amp;S requirements Credits (32) For BA degree: Level 4 Foreign language Credits (4)</p> <p>Total hours required for graduation (121 credit hours)</p>
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**RATIONALE:** Biochemistry and Molecular Biophysics (BMB) seeks to modify the existing B.A. degree in Biochemistry, Medical Biochemistry Track. This program was created in 2012 to provide a framework for students who require specialized training in biochemistry in preparation for careers in medicine or related fields. BMB faculty designed the program following recommendations of the American Association of Medical Colleges (AAMC) and the American Society of Biochemistry and Molecular Biology (ASBMB). After input from students in our programs, and ensuing faculty discussions, we propose to change the upper division elective requirements (20 credits) in this curriculum, opening them to include any upper division elective credits in any College. We find this change more consistent with the broad academic scope of a Bachelor of Arts degree, and suggest that it will also facilitate the achievement of dual major degrees by students with more diverse or complex academic adjectives.

**IMPACT:** The changes potentially involve additional enrollment in classes from other departments and colleges across the K-State campus. But, BMB currently has 85 undergraduate majors, so we do not expect a dramatic increase in any specific classes. Aside from these ramifications we do anticipate that changes will affect other units. Colleges across campus have been notified.

**EFFECTIVE DATE:** Fall 2015

## Biology

Microbiology B.A./B.S.

**FROM:**

**TO:**

<p>Bachelor's degree requirements</p> <p>Block A: Courses offered by other departments</p>	<p>Bachelor's degree requirements</p> <p>Block A: Courses offered by other departments</p>
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- BIOCH 521 – General Biochemistry **Credits:** (3)
- CHM 210 – Chemistry I **Credits:** (4)
- CHM 230 – Chemistry II **Credits:** (4)
- CHM 350 – General Organic Chemistry **Credits:** (3)
- CHM 351 – General Organic Chemistry Laboratory **Credits:** (2)
- MATH 220 – Analytic Geometry and Calculus I **Credits:** (4)
- PHYS 113 – General Physics I **Credits:** (4)
- PHYS 114 – General Physics II **Credits:** (4)

**Note:**

Prerequisites for MATH 220 are:

- MATH 100 and MATH 150
- or four semesters of high school algebra and one semester of trigonometry plus appropriate math placement exam scores

Upon consultation with a Division of Biology advisor a student may substitute:

- Biochemistry I (BIOCH 755) and II (BIOCH 765) for General Biochemistry (BIOCH 521)
- Organic Chemistry I (CHM 531) and II (CHM 550) for General Organic Chemistry (CHM 350)
- Organic Chemistry I Lab (CHM 532) for General Organic Chemistry Lab (CHM 351) and
- Engineering Physics I (PHYS 213) and II (PHYS 214) for General Physics I (PHYS 113) and II (PHYS 114)

**Block B: Division of biology courses**

- BIOCH 521 – General Biochemistry **Credits:** (3)
- CHM 210 – Chemistry I **Credits:** (4)
- CHM 230 – Chemistry II **Credits:** (4)
- CHM 350 – General Organic Chemistry **Credits:** (3)
- CHM 351 – General Organic Chemistry Laboratory **Credits:** (2)
- MATH 220 – Analytic Geometry and Calculus I **Credits:** (4)
- Class chosen from STAT 325, 340, 701, 703; MATH 221, 551, 615; CIS 111, 200 Credits: (3–4)
- PHYS 113 – General Physics I **Credits:** (4)
- PHYS 114 – General Physics II **Credits:** (4)

**Note:**

Prerequisites for MATH 220 are:

- MATH 100 and MATH 150
- or four semesters of high school algebra and one semester of trigonometry plus appropriate math placement exam scores

Upon consultation with a Division of Biology advisor a student may substitute:

- Biochemistry I (BIOCH 755) and II (BIOCH 765) for General Biochemistry (BIOCH 521)
- Organic Chemistry I (CHM 531) and II (CHM 550) for General Organic Chemistry (CHM 350)
- Organic Chemistry I Lab (CHM 532) for General Organic Chemistry Lab (CHM 351) and
- Engineering Physics I (PHYS 213) and II (PHYS 214) for General Physics I (PHYS 113) and II (PHYS 114)

- 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)
- BIOL 675 – Genetics of Microorganisms Credits: (3)

### Block C: Microbiology major electives

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Students must take an ~~additional 13 credit hours~~ from courses listed below. At least ~~7 of the 13 credit hours must be laboratory courses.~~

- AGRON 645 – Soil Microbiology Credits: (3)
- AGRON 646 – Soil Microbiology Laboratory Credits: (1)
- BIOL 410 – Biology of the Cancer Cell Credits: (2)
- BIOL 495 – Topics in Biology Credits: (1–6) (1–3 credit hours)
- or
- BIOL 697 – Topics in Biology Credits: (1–6) (1–3 credit hours)
- BIOL 530 – Pathogenic Microbiology Credits: (3) (lab course)
- BIOL 545 – Human Parasitology Credits: (3)
- BIOL 546 – Human Parasitology Laboratory Credits: (1)
- BIOL 604 – Biology of the Fungi Credits: (3) (lab course)
- BIOL 609 – Cellular and Molecular Biology of Human Diseases Credits: (3)
- BIOL 625 – Animal Parasitology Credits: (4) (lab course)
- BIOL 671 – Immunology Lab Credits: (2)
- BIOL 676 – Molecular Genetics Laboratory Credits: (3)

### Block B: Division of biology courses

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- 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)
- BIOL 675 – Genetics of Microorganisms Credits: (3)
- BIOL 687 – Microbial Ecology Credits: (3)

### Block C: Microbiology major electives

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Students must take an *additional 10 credit hours* from courses listed below. Five to 10 hours from List 1 can be applied to this requirement. Up to 5 hours from List 2 can be applied to this requirements. *At least 5 of the 10 credit hours must be laboratory credits.*

#### List 1:

- AGRON 645 – Soil Microbiology Credits: (3)
- AGRON 646 – Soil Microbiology Laboratory Credits: (1)
- BIOL 410 – Biology of the Cancer Cell Credits: (2)
- BIOL 495 – Topics in Biology Credits: (1–6) (1–3 credit hours)
- or
- BIOL 697 – Topics in Biology Credits: (1–6) (1–3 credit hours)
- BIOL 520 – Evolution Credits: (3)
- BIOL 530 – Pathogenic Microbiology Credits: (3) (lab course)
- BIOL 545 – Human Parasitology Credits: (3)

- ~~BIOL 687 – Microbial Ecology Credits: (3)~~
- BIOL 690 – Microbial Physiology and Metabolism Credits: (2)
- BIOL 698 – Problems in Biology Credits: (1–8) (lab course) (1–3 credit hours)
- BIOL 705 – Eukaryotic Genetics Credits: (3)
- BIOL 707 – Advanced Cell Biology Credits: (3)
- BIOL 730 – General Virology Credits: (3)
- BIOL 731 – Virology Laboratory Credits: (2)
- FDSCI 600 – Food Microbiology Credits: (2)
- FDSCI 601 – Food Microbiology Lab Credits: (2)

**Note:**

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By consultation with a Division of Biology advisor a student may choose elective courses from Block C that allow a more specific focus on interest and experience. Areas of specialization would include prokaryotic microbiology, eukaryotic microbiology, biotechnology/genetic engineering, and infectious diseases. The microbiology curriculum coupled with appropriate electives provides an excellent education base for students moving directly into the job market, for students headed toward medical, dental, medical technology, and veterinary programs, and for students going into graduate programs in the biological sciences.

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

- BIOL 546 – Human Parasitology Laboratory Credits: (1)
- BIOL 604 – Biology of the Fungi Credits: (3) (lab course)
- BIOL 609 – Cellular and Molecular Biology of Human Diseases Credits: (3)
- BIOL 625 – Animal Parasitology Credits: (4) (lab course)
- BIOL 671 – Immunology Lab Credits: (2)
- BIOL 676 – Molecular Genetics Laboratory Credits: (3)
- BIOL 687 – Microbial Ecology Credits: (3)
- BIOL 690 – Microbial Physiology and Metabolism Credits: (2)
- BIOL 698 – Problems in Biology Credits: (1–8) (lab course) (1–3 credit hours)
- BIOL 705 – Eukaryotic Genetics Credits: (3)
- BIOL 707 – Advanced Cell Biology Credits: (3)
- BIOL 730 – General Virology Credits: (3)
- BIOL 731 – Virology Laboratory Credits: (2)
- FDSCI 600 – Food Microbiology Credits: (2)
- FDSCI 601 – Food Microbiology Lab Credits: (2)

List 2:

- ASI 540 – Principles of Animal Disease Control Credits: (3)
- ASI 720 – Anaerobic Bacteriology Credits: (2)
- BIOCH 522 – General Biochemistry Laboratory Credits: (2)
- BIOCH 571 – Medical Biochemistry Credits: (3)
- BIOCH 756 – Biochemistry 1 Laboratory Credits: (2)
- BIOCH 766 – Recombinant DNA Laboratory 1 Credits: (1)
- BIOCH 767 – Recombinant DNA Laboratory

**II Credits: (1)**

- **BIOCH 775 – Molecular Biophysics Credits: (3)**
- **DMP 705 – Principles of Veterinary Immunology Credits: (2)**
- **DMP 708 – Veterinary Epidemiology Credits: (2)**
- **DMP 712 – Veterinary Bacteriology and Mycology – Lecture Credits: (3)**
- **DMP 754 – Introduction to Epidemiology Credits: (3)**
- **DMP 770 – Emerging Diseases Credits: (3)**
- **PLPTH 500 – Principles of Plant Pathology Credits: (2)**
- **PLPTH 585 – Crop Diseases Credits: (2)**
- **PLPTH 610 – Biotechnology Credits: (3)**
- **PLPTH 611 – Agricultural Biotechnology Laboratory Credits: (2)**
- **PLPTH 612 – Genomics Applications Credits: (3)**
- **PLPTH 613 – Bioinformatics Applications Credits: (2)**

**Note:**

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By consultation with a Division of Biology advisor a student may choose elective courses from Block C that allow a more specific focus on interest and experience. Areas of specialization would include prokaryotic microbiology, eukaryotic microbiology, biotechnology/genetic engineering, and infectious diseases. The microbiology curriculum coupled with appropriate electives provides an excellent education base for students moving directly into the job market, for students headed toward medical, dental, medical technology, and veterinary programs, and for students going into graduate programs in the biological sciences.

	<b>Total credit hours required for graduation: (120)</b>
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**RATIONALE:** Addition of a quantitative requirement (statics, computer science, or math) will better prepare students for the current requirements in microbiology. It also brings Microbiology curriculum in line with the quantitative requirements already approved for the Biology major.

Addition of Microbial Ecology, BIOL 687, to Block B will provide students with more knowledge and appreciation for microbes and their interactions in natural environments. This is important in understanding the evolution of microbes that interact with other organisms including plants, animals, and human. This course is required by many peer institutions and is recommended as a core course in undergraduate Microbiology curricula by the American Society of Microbiology.

The number of credits of required elective courses and electives lab credits (Block C) are reduced (by 3 and 2, respectively) to accommodate the additions to the curriculum.

Additional flexibility in electives (List 2 in Block C) is provided to offset the overall 3-credit addition to the required curriculum and to allow students to tailor the curriculum to their interests. The added classes, BIOL 520, Evolution in List A and the courses from other departments in List B, are all very appropriate in content as microbiology electives.

**IMPACT:** Mathematics, Statistics, Biochemistry, Plant Pathology, Animal Science, and Computing and Information Systems departments have been contacted and have all given approval through emails.

**EFFECTIVE DATE:** Fall 2015

## Geology

Exploration and Environmental Geophysics Minor

**FROM:**

**TO:**

<b>Program requirements</b>	<b>Program requirements</b>
<ul style="list-style-type: none"> <li>• GEOL 100 – Earth in Action <b>Credits:</b> (3)</li> <li>• GEOL 103 – Geology Laboratory <b>Credits:</b> (1)</li> <li>• <del>GEOL 743</del> – Introduction to Geophysics <b>Credits:</b> (3)</li> </ul>	<ul style="list-style-type: none"> <li>• GEOL 100 – Earth in Action <b>Credits:</b> (3)</li> <li>• GEOL 103 – Geology Laboratory <b>Credits:</b> (1)</li> <li>• <span style="background-color: yellow;">GEOL 640</span> – Introduction to Geophysics <b>Credits:</b> (3)</li> </ul>

<ul style="list-style-type: none"> <li>• GEOL 642 – Field Geophysics <b>Credits:</b> (3)</li> <li>• <del>GEOL 650 – Exploration Geophysics <b>Credits:</b> (3)</del></li> <li>• GEOL 520 – Geomorphology <b>Credits:</b> (3)</li> <li><b>or</b></li> <li>• GEOL 630 – Stratigraphy – Sedimentation <b>Credits:</b> (3)</li> </ul> <p><b>Total credit hours: (16)</b></p> <p><del>*Geology majors seeking the geophysics minor will be required to take an additional geology elective at the 500+ level.</del></p>	<ul style="list-style-type: none"> <li>• GEOL 642 – Field Geophysics <b>Credits:</b> (3)</li> <li>• <u>GEOL 834 – Seismic Interpretation <b>Credits:</b> (3)</u></li> <li>• GEOL 520 – Geomorphology <b>Credits:</b> (3)</li> <li><b>or</b></li> <li>• GEOL 630 – Stratigraphy – Sedimentation <b>Credits:</b> (3)</li> </ul> <p><b>Total credit hours: (16)</b></p>
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**RATIONALE:** The Environmental Geophysics minor was “mothballed” for several years because the department didn’t have a resident geophysicist able to teach the courses. However, Dr. Abdelmonean Raef has now rejoined the department and interest in resurrecting this minor has grown. It is therefore timely to consider not only resurrecting it, but refreshing it so that it is relevant to the career aspirations of the majority of our students. A significant proportion of our undergraduate majors and graduate students are interested in jobs in the energy sector, and so our geophysics courses have been updated to reflect this demand. Exploration Geophysics (formerly a separate course GEOL 650) is now fully integrated into several of our other geophysics courses, including GEOL 640 (Introduction to Geophysics); GEOL 642 (Field Geophysics) and GEOL 834 Seismic Data Interpretation. Amending the title of this minor to include “Exploration” as well as “Environmental” geophysics would more accurately reflect current practice and better serve our students.

**IMPACT:** Proposed changes would enhance opportunities for collaboration with other departments and colleges across campus, particularly Physics and Engineering, making clear the enhanced focus on exploration geophysics as a complement to environmental geophysics.

**EFFECTIVE DATE:** Fall 2015

### **Geology B.S./B.A.**

**FROM:**

**TO:**

In addition to the general requirements for the BA or BS degree, the following must be completed:

- CHM 210 – Chemistry I **Credits: (4)**
- CHM 230 – Chemistry II **Credits: (4)**
- GEOL 100 – Earth in Action **Credits: (3)**
- GEOL 103 – Geology Laboratory **Credits: (1)**
- GEOL 502 – Mineralogy **Credits: (3)**
- GEOL 503 – Petrology **Credits: (3)**
- ~~GEOL 520 – Geomorphology **Credits: (3)**~~
- GEOL 530 – Structural Geology **Credits: (3)**
- GEOL 560 – Field Methods **Credits: (3)**
- ~~GEOL 581 – Invertebrate Fossils **Credits: (3)**~~
- GEOL 630 – Stratigraphy–Sedimentation **Credits: (3)**
- GEOL 680 – Field Geology **Credits: (3)**
- ~~GEOL 750 – Geologic Evolution of Planet Earth **Credits: (3)**~~
- MATH 220 – Analytic Geometry and Calculus I **Credits: (4)**
- PHYS 113 – General Physics I **Credits: (4)**
- PHYS 114 – General Physics II **Credits: (4)**

~~Plus one of the following and two Geology electives~~

~~• GEOL 605 – Introduction to Geochemistry **Credits: (3)**~~

~~• or~~

~~• GEOL 743 – Introduction to Geophysics **Credits: (3)**~~

~~• and~~

~~• Two courses at the 600 or 700 level~~

In addition to the general requirements for the BA or BS degree, the following must be completed:

- CHM 210 – Chemistry I **Credits: (4)**
- CHM 230 – Chemistry II **Credits: (4)**
- GEOL 100 – Earth in Action **Credits: (3)**
- GEOL 102 – Earth Through Time **Credits: (3)**
- GEOL 103 – Geology Laboratory **Credits: (1)**
- GEOL 502 – Mineralogy **Credits: (3)**
- GEOL 503 – Petrology **Credits: (3)**
- GEOL 530 – Structural Geology **Credits: (3)**
- GEOL 560 – Field Methods **Credits: (3)**
- GEOL 630 – Stratigraphy–Sedimentation **Credits: (3)**
- GEOL 680 – Field Geology **Credits: (3)**
- MATH 220 – Analytic Geometry and Calculus I **Credits: (4)**
- MATH 221 – Analytic Geometry and Calculus II **Credits: (4)**
- PHYS 213 – Engineering Physics I **Credits: (4)** OR  
PHYS 113 – General Physics I **Credits: (4)**
- PHYS 214 – General Physics II **Credits: (4)** OR  
PHYS 114 – General Physics II **Credits: (4)**

Plus at least one each from Groups I, II and III below and one additional elective from Groups I, II, III or IV

#### GROUP I

- GEOL 605 – Introduction to Geochemistry **Credits: (3)**
- GEOL 743 – Introduction to Geophysics **Credits: (3)**

#### GROUP II (ENERGY AND NATURAL RESOURCES)

- GEOL 702 – Economic Geology **Credits: (3)**
- GEOL 730 – Petroleum Geology **Credits: (3)**
- GEOL 834 – Seismic Data Interpretation **Credits: (3)**

~~of~~

~~One course at the 600 or 700 level~~

~~and~~

~~GEOL 499 Senior Honors Thesis Credits: (1-3)~~

~~of~~

~~GEOL 599 Senior Thesis Credits: (1-3)~~

### Transfer students

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In addition to the general instructions to transfer students, students planning to pursue a degree in geology should complete as many of the following courses or their equivalents as possible, then follow the course requirements for the geology option described above:

- CHM 210 – Chemistry I **Credits:** (4)
- CHM 230 – Chemistry II **Credits:** (4)
- COMM 105 – Public Speaking IA **Credits:** (2)
- ENGL 100 – Expository Writing I **Credits:** (3)
- ENGL 200 – Expository Writing II **Credits:** (3)
- GEOL 100 – Earth in Action **Credits:** (3)
- GEOL 103 – Geology Laboratory **Credits:** (1)
- MATH 100 – College Algebra **Credits:** (3)
- MATH 150 – Plane Trigonometry **Credits:** (3)
- MATH 220 – Analytic Geometry and Calculus I **Credits:** (4)
- MATH 221 – Analytic Geometry and Calculus II **Credits:** (4)
- PHYS 113 – General Physics I **Credits:** (4)

### GROUP III (SURFICIAL PROCESSES & THE ENVIRONMENT)

- GEOL 520 – Geomorphology Credits: (3)
- GEOL 611 – Hydrogeology Credits: (3)
- GEOL 650 – Geomicrobiology Credits: (3)

### GROUP IV (OTHER ELECTIVES)

- GEOL 540 – Geologic Record of Climate Change Credits: (3)
- GEOL 581 – Invertebrate Fossils Credits: (3)
- GEOL 599 – Senior Thesis Credits: (3)
- GEOL 642 – Introduction to Field Geophysics Credits: (3)
- GEOL 704 – Carbonate Paleoenvironments Credits: (3)
- GEOL 708 – Sedimentary Geochemistry Credits: (3)
- GEOL 711 – Water Resources Geochemistry Credits: (3)
- GEOL 740 – Regional Geology Credits: (3)
- GEOL 760 – Geochemical and Biogeochemical Modelling Credits: (3)
- GEOL 770 – Subsurface Methods Credits: (3)
- GEOL 790 – Problems in Geology – Fossil Fuel Sedimentology Credits: (3)
- GEOL 790 – Problems in Geology – Formation Evaluation Credits: (3)
- GEOL 790 – IBA Credits: (3)
- GEOL 806 – Sedimentary Petrology Credits: (3)

- PHYS 114 – General Physics II **Credits:** (4)
- Total credit hours required for graduation: (120)**

- GEOL 810  
– Isotope Geology Credits: (3)
- GEOL 830  
– Geotectonics Credits: (3)
- GEOL 832  
– Seismic Data Processing Credits: (3)
- GEOL 880  
– Clay Mineralogy Credits: (3)

§ Note – GEOL 581 Invertebrate Fossils and GEOL 650 Geomicrobiology simultaneously satisfy CAS Life Sciences requirement

Total Geology credit hours = 37

#### **Transfer students**

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In addition to the general instructions to transfer students, students planning to pursue a degree in geology should complete as many of the following courses or their equivalents as possible, then follow the course requirements for the geology option described above:

- CHM 210 – Chemistry I **Credits:** (4)
- CHM 230 – Chemistry II **Credits:** (4)
- COMM 105 – Public Speaking IA **Credits:** (2)
- ENGL 100 – Expository Writing I **Credits:** (3)
- ENGL 200 – Expository Writing II **Credits:** (3)
- GEOL 100 – Earth in Action **Credits:** (3)
- GEOL 103 – Geology Laboratory **Credits:** (1)
- MATH 100 – College Algebra **Credits:** (3)
- MATH 150 – Plane Trigonometry **Credits:** (3)
- MATH 220 – Analytic Geometry and Calculus I **Credits:** (4)
- MATH 221 – Analytic Geometry and Calculus II **Credits:** (4)
- PHYS 213 – Engineering Physics I Credits: (4)
- OR

	<ul style="list-style-type: none"> <li>• PHYS 113 – General Physics I <b>Credits:</b> (4)</li> <li>• <u>PHYS 214 – Engineering Physics I Credits:</u> (4)</li> <li>• <u>OR</u></li> <li>• PHYS 114 – General Physics II <b>Credits:</b> (4)</li> </ul> <p><b>Total credit hours required for graduation: (120)</b></p>
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**RATIONALE:** The proposed changes are being made in response to the recommendations of an external curriculum review. A copy of the review can be provided if needed.

**IMPACT:** Proposed changes will impact Math and Physics. These impacts were discussed with Head of Physics, Amit Chakrabarti, and Head of Math, Andy Bennett, on 07 August 2014. Their support for the proposed changes is indicated in the attached emails. The emails are dated October 31, 2014.

**EFFECTIVE DATE:** Fall 2015

## Geology Minor

**FROM:**

**TO:**

<p><b>Program requirements</b></p> <hr/> <ul style="list-style-type: none"> <li>• GEOL 100 – Earth in Action <b>Credits:</b> (3)</li> <li>• GEOL 103 – Geology Laboratory <b>Credits:</b> (1)</li> <li>• GEOL 502 – Mineralogy <b>Credits:</b> (3)</li> <li>• <del>GEOL 520 – Geomorphology Credits: (3)</del></li> </ul> <p><b>Geology electives</b></p> <hr/> <ul style="list-style-type: none"> <li>• <del>Three courses at the 500 level or above (excluding GEOL 512) Credits: (7-10)</del></li> </ul> <p><b>Total credit hours: (17-21)</b></p>	<p><b>Program requirements</b></p> <hr/> <ul style="list-style-type: none"> <li>• GEOL 100 – Earth in Action <b>Credits:</b> (3)</li> <li>• GEOL 103 – Geology Laboratory <b>Credits:</b> (1)</li> <li>• GEOL 502 – Mineralogy <b>Credits:</b> (3)</li> </ul> <p><b>Geology electives</b></p> <hr/> <ul style="list-style-type: none"> <li>• At least three additional courses at 500 level or above (excluding GEOL 512) <b>Credits:</b> (9)</li> </ul> <p><b>Total credit hours: (16)</b></p>
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**RATIONALE:** The proposed changes are being made in response to the recommendations of an external curriculum review. A copy of the review can be provided if needed.

IMPACT: Proposed changes have minimal if any impact on other departments within the university.

EFFECTIVE DATE: Fall 2015

# NON-EXPEDITED CURRICULUM PROPOSALS

## Graduate

### **Communication Studies**

ADD:

Dialogue, Deliberation, and Public Engagement Graduate Certificate:

**Admission:** Degree or non-degree seeking students must be admitted into the certificate program.

- a. For non-degree seeking students, acceptance into the program is determined by the DDPE Director, DDPE faculty chair, and Communication Studies Graduate Coordinator
- b. For degree seeking graduate students, acceptance into the program is contingent on satisfactory standing with the graduate school. Approval must be granted by the student's graduate committee and the DDPE director

Once admitted to the program, students must complete the following 4 courses in sequential order (12 credits):

COMM 790 – Dialogue, Deliberation, and Public Engagement: Theoretical Foundations **Credits (4)**

COMM 791 – Dialogue, Deliberation, and Public Engagement: Process Models **Credits (3)**

COMM 792 – Dialogue, Deliberation, and Public Engagement: Core Skills and Strategies **Credits (4)**

COMM 793 – Dialogue, Deliberation, and Public Engagement: Capstone **Credits (1)**

12 Credit Hours Total

**RATIONALE:** We believe there is a desire and need for a graduate certificate in Dialogue, Deliberation, and Public Engagement (DDPE). Based on a variety of indicators, including a reputable track record, market demand, and scholarly significance, we believe a DDPE graduate certificate would be attractive to both traditional and non-traditional / on-campus and distance graduate students. A graduate certificate in DDPE would also advance and move the communication studies graduate offerings into an area of increasing interest and demand.

The DDPE curriculum was initiated in 2004 by faculty at Fielding Graduate University (Santa Barbara, CA) and designed collaboratively with the [International Institute for Sustained Dialogue](#), the [Kettering Foundation](#), the [Centre for Citizenship and Public Policy, University of Western Sydney](#) and the

[Public Dialogue Consortium](#). The primary architect and champion for the DDPE was Dr. Barnett Pearce (Fielding University) who was a well-known and respected scholar in communication studies. Dr. Pearce passed away in 2011 and Fielding University decided to discontinue the curriculum.

Those individuals and centers that helped create the DDPE were interested in continuing the program. They needed an academic home for the curriculum and came to Kansas State University. They approached K-State because of the reputation of KSU's Institute for Civic Discourse and Democracy (ICDD). K-State's ICDD has developed a national reputation in deliberation and public engagement. Since its formation in 2004, ICDD has developed strong ties with the Kettering Foundation, America Speaks, the National Issues Forums and other national deliberation organizations. Additionally, this community of practice was familiar with KSU's ICDD because Dr. David Procter (ICDD Director) and Dr. Tim Steffensmeier (ICDD Research Associate) served as editors of the online journal, *The Journal of Public Deliberation*. These national organizations also knew that K-State was teaching, researching and conducting outreach in deliberation and public engagement. After significant negotiation with representatives of the DDPE, K-State's Global Campus, and K-State's department of communication studies, we decided to take responsibility for administering and teaching the DDPE.

Academic attention toward issues of dialogue, deliberation, and public engagement has increased significantly in the last decade. Research in deliberative practice and civic engagement submitted to academic conferences, professional journals, and edited volumes are on the increase. Research in this field appears in a variety of disciplinary fields ranging from political science to philosophy, education to public policy, leadership studies to sociology. While the interdisciplinary nature of this field is evident, communication studies is a natural academic home for this graduate certificate. The National Communication Association (NCA), recognizing the emergence of this academic area, established a research and teaching division within NCA called "Public Dialogue and Deliberation" in November, 2014. This division will generate graduate students, research, and new Ph.D.s in this field. So, we believe the DDPE is being proposed at both an important and opportune time.

Beginning in Fall, 2013, ICDD offered the DDPE through Global Campus as a non-credit certificate program. When this certification curricula was announced, we received 76 inquiries. Ten of those students matriculated into the program and 8 of the ten completed the non-credit certificate program in April 2014. We

are currently negotiating with Mexico's Tec de Monterrey system to bring the DDPE to their campus. Additionally, we are negotiating with South Australia's Local Government Association based on their request to bring the DDPE to South Australia.

Theoretically, there is also a need for this curriculum. This area of study demands a clearer and unifying theory and a more common vocabulary. Defining "the field" is necessary. This field consists of both practitioners and academics, and those scholars come from a wide range of academic disciplines. Scholars in this area share a commitment to broad democratic values and efforts to meaningfully engage people in public processes. However, the work is called many different things, and each of these terms has specific meaning to those of us who use it, and our particular organizations and efforts have different missions, methods, and goals. This graduate certificate would help address these definitional issues. The skills and strategies outlined in this program are critical for advancing civil society in our global and increasingly interconnected world. As K-State faculty, the idea of offering this certificate would greatly enhance the leadership and problem-solving competencies of our students, and those professionals and alumni who call K-State their "home." The proposed curriculum would also complement our current certificate programs in conflict resolution by extending communication and facilitation skills essential for engaging in conflict constructively. In my opinion, each of the modules identified would provide a deeper understanding of, and prepare citizens to better contribute to, the challenges we face as this century unfolds. Definitely a win-win!

**IMPACT:** We do not anticipate the curriculum to conflict with other K-State offerings. This curriculum focuses on the communication processes of dialogue and deliberation that are germane to communication studies. We contacted the two other departments on campus that are communication focused, Agricultural Communications and JMC. In addition, we reached out to the Political Science Department and School of Leadership Studies due to their work in public administration and engagement.

Contact List:

Dr. Kristina Boone, Head, Communications and Agricultural Education (letter of support attached)

Dr. Mary Tolar, Director, Staley School of Leadership Studies (letter of support attached)

Dr. Birgit Wassmuth, Director of A.Q. Miller School of Journalism and Mass Communication (e-mailed proposal 10-3-14, no response)

Dr. Jeffrey Pickering, Head, Political Science (affirmative response to proposal on 10-24-14)

EFFECTIVE DATE:      Fall 2015