Meeting of the College Assembly
College of Liberal Arts & Sciences
Kansas Room, Kansas Union
May 3, 2005 – 4:00 p.m.

AGENDA

I. APPROVAL OF APRIL 5, 2005 MINUTES

II. REPORT OF THE COMMITTEE ON GRADUATE STUDIES (CGS)
Presented by Bartholomew Dean; submitted by Emily Eichler

A. Curricular Changes for approval: COMS 741, ECON 800, ECON 801, ECON 802, ECON 809, ECON 810, INS 862, INS 863, INS 864, INS 865, INS 868, INS 869, LAA 703, LAA 704

B. For Approval by College Assembly

CGS recommends for approval the following:

1. Economics Department Proposed Changes in Requirements for the Ph.D.
2. History Department New Language Requirement

III. REPORT OF THE COMMITTEE ON UNDERGRADUATE STUDIES AND ADVISING (CUSA)
Presented by Chris Haufler, CUSA Chair; submitted by Bridget Bradley

A. Curricular Changes for approval: AAAS 349, AAAS 450, AAAS 552, AAAS 650, AAAS 657, AMS 501, ATMO 505, BIOL 102, BIOL 103, BIOL 400, BIOL 401, BIOL 405, BIOL 408, BIOL 409, BIOL 412, BIOL 413, BIOL 414, BIOL 416, BIOL 417, BIOL 426, BIOL 435, BIOL 494, BIOL 502, BIOL 505, BIOL 506, BIOL 507, BIOL 508, BIOL 509, BIOL 512, BIOL 513, BIOL 518, BIOL 519, BIOL 536, BIOL 544, BIOL 556, BIOL 544, BIOL 556, BIOL 595, BIOL 599, BIOL 600, BIOL 606, BIOL 607, BIOL 608, BIOL 610, BIOL 611, BIOL 612, BIOL 618, BIOL 620, BIOL 621, BIOL 625, BIOL 644, BIOL 652, BIOL 660, BIOL 661, BIOL 663, BIOL 664, BIOL 665, BIOL 673, BIOL 688, BIOL 690, ECON 609, ENGL 492, ENGL 496, HWC 110, PHSX 211, PHSX 212, PHSX 213, PHSX 214, POLS 674, PSYC 299, REL 435, REL 350, REL 450, REL 552, REL 650, REL 657, SOC 510, SPLH 662, SPLH 663, TH&F 401

B. Degree Requirements for approval:

1. Non-Western Culture status for: AAAS 349, AAAS 450, AAAS 552, AAAS 650, AAAS 657
2. Deletion of the BGS degree in Human Biology

C. Report of Action

1. Changes to Major Requirements in Biological Sciences
2. Changes to Major Requirements in Sociology
I. MINUTES OF THE COLLEGE ASSEMBLY, APRIL 5, 2005

The meeting was called to order by Dean Kim Wilcox.

The first order of business was the approval of the March 1, 2005 minutes. The minutes were approved as published.

The CUSA report was presented by Dean Wilcox. Dean Wilcox moved for the approval of the proposed curricular changes listed. A vote was taken and the motion carried.

Dean Wilcox adjourned the meeting at 4:05 p.m.

Respectfully Submitted,

Emily Eichler
Recording Secretary
II. REPORT OF THE COMMITTEE ON GRADUATE STUDIES (CGS)
Presented by Rodolfo Torres; submitted by Emily Eichler

A. CURRICULAR CHANGES

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<tr>
<td>COMS 741</td>
<td>SPECIAL TOPICS IN HUMAN RELATIONS (2-3)</td>
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<td>Advanced study in special areas. Prerequisite: Six hours of Human Relations and consent of instructor. RSH</td>
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<tr>
<td>COMS 741</td>
<td>SPECIAL TOPICS IN COMMUNICATION STUDIES (2-3)</td>
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<td></td>
<td>Examination of special topics in Communication Studies. Prerequisite: Instructor consent. LEC</td>
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<tr>
<td>ECON 927</td>
<td>OPTIMIZATION TECHNIQUES I (3)</td>
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<td>Economic models involving the maximization of a scalar (vector) function subject to equality and inequality constraint where the variables are in a finite dimensional Euclidean space. Characterization of optimal points by way of first and second order derivatives and by way of saddle points. Duality theorems of mathematical programming. Prerequisite: Consent of instructor. LEC</td>
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<td>ECON 800</td>
<td>OPTIMIZATION TECHNIQUES I (3)</td>
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<td>Economic models involving the maximization of a scalar (vector) function subject to equality and inequality constraint where the variables are in a finite dimensional Euclidean space. Characterization of optimal points by way of first and second order derivatives and by way of saddle points. Duality theorems of mathematical programming. Prerequisite: Consent of instructor. LEC</td>
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<tr>
<td>ECON 801</td>
<td>MICROECONOMIC THEORY (3)</td>
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<td>An advanced course in price and distribution theory. Prerequisite: ECON 520 and MATH 123. LEC</td>
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<tr>
<td>ECON 801</td>
<td>MICROECONOMICS I (3)</td>
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<tr>
<td></td>
<td>An advanced course in price and distribution theory. Prerequisites: ECON 800 or consent of instructor. LEC</td>
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<tr>
<td>ECON 802</td>
<td>GENERAL EQUILIBRIUM AND WELFARE ECONOMICS (3)</td>
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<td>The study of the operation of the economic system taking into account the diversity of goods and services. Primary attention is centered upon the competitive economy. A study is made of the existence, uniqueness, stability, and comparative statics of equilibrium positions. In addition, a study is made of ways of evaluating alternative states of the economy in terms of systems of value judgments. This includes a discussion of the Arrow Impossibility Theorem; the notion of a Pareto-satisfactory process is introduced and the relationship between Pareto-optimal states and competitive equilibrium positions is studied. Prerequisite: ECON 801. LEC</td>
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<tr>
<td>ECON 802</td>
<td>MICROECONOMICS II (3)</td>
<td>The study of the operation of the economic system taking into account the diversity of goods and services. Primary attention is centered upon the competitive economy. A study is made of the existence, uniqueness, stability, and comparative statics of equilibrium positions. In addition, a study is made of ways of evaluating alternative states of the economy in terms of systems of value judgments. This includes a discussion of the Arrow Impossibility Theorem; the notion of a Pareto-satisfactory process is introduced and the relationship between Pareto-optimal states and competitive equilibrium positions is studied. Prerequisite: ECON 801. LEC</td>
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<tr>
<td>ECON 928</td>
<td>OPTIMIZATION TECHNIQUES II (3)</td>
<td>Economic models involving the maximization of an integral (a vector of integrals) subject to differential equality (inequality), integral equality (inequality), and finite equality (inequality) constraints. Characterization of optimal paths by way of first and second derivatives. Existence of optimal paths. Prerequisite: Consent of instructor. LEC</td>
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**ECON 809**

**NEW COURSE**

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<tr>
<td>ECON 810</td>
<td>MICROECONOMICS I (3)</td>
<td>A survey of basic macroeconomic models, including Classical and Keynesian as well as more recent ones. Topics also cover monetary and fiscal stabilization policies, the role of rational expectations, and basic behavioral equations. Tradeoffs of inflation and unemployment are examined both theoretically and empirically.</td>
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**CHANGE: PREREQUISITE**

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<td>ECON 810</td>
<td>MACROECONOMICS I (3)</td>
<td>A survey of basic macroeconomic models, including Classical and Keynesian as well as more recent ones. Topics also cover monetary and fiscal stabilization policies, the role of rational expectations, and basic behavioral equations. Tradeoffs of inflation and unemployment are examined both theoretically and empirically. Prerequisite: ECON 809 or consent of instructor.</td>
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**NEW COURSE**

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<td>INS 862</td>
<td>INDIGENOUS ARCHIVES</td>
<td>A discussion of what constitutes an archive, including the theory and methodology of archival collections, and an introduction to archiving as a profession. Includes a discussion of records management, with an emphasis on tribal archives collections and tribal records. Includes instruction on arrangement and description of tribal archival collections, funding, environmentally controlled storage, and disaster recovery planning. The class will specifically address the needs of tribal archives: tribal records, oral history interviews, photographs, litigation records, grant writing, and culturally sensitive materials. Students will learn about primary and secondary sources, different formats of writing professional research papers, and will produce a research paper at the end of the semester.</td>
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NEW COURSE

INS 863 ORAL HISTORY
A discussion of the importance of the oral tradition in Indigenous nations and the
difference between oral tradition and oral histories and myth. The class will concentrate
on the methodologies of tribal oral history projects, from organizational aspects to
personnel issues, equipment needed, sources of grant funding, interview methodology, as
well as documentation and preservation of the interviews. The course will discuss how
to share and make available these interviews and when access to them needs to be
restricted. The students will conduct videotaped oral histories as part of the class
courses and get hands-on experience with the preservation, organization, and
transcription of oral history projects.

CHANGE: NUMBER, TITLE

INS 804 SPECIAL TOPICS: EXHIBITING CULTURE
(OLD) A discussion of how museums and exhibits can be a vehicle for indigenous community
empowerment and the importance of indigenous cultures to interpret their stories
themselves. The class will also look how different nations view the display and handling
of their belongings and what kinds of belongings can or should be handled and displayed.

INS 864 EXHIBITING CULTURE
(NEW) A discussion of how museums and exhibits can be a vehicle for indigenous community
empowerment and the importance of indigenous cultures to interpret their stories
themselves. The class will also look at how different nations view the display and
handling of their belongings and what kinds of belongings can or should be handled and displayed.

CHANGE: NUMBER, TITLE

INS 804 SPECIAL TOPICS: GRANT WRITING AND FUNDRAISING
(OLD) A discussion of how to develop a grant writing and fundraising plan for a tribal project.
Includes how to develop an idea or project and how to prepare a funding campaign. The
students will produce a fundraising event and work on the various parts of an actual great
as the final class activity that will be designed to bring in funding to support KU
Indigenous Nations Studies Program.

INS 865 GRANT WRITING AND FUNDRAISING
(NEW) A discussion of how to develop a grant writing and fundraising plan for a tribal project.
Includes how to develop an idea or project and how to prepare a funding campaign. The
students will produce a fundraising event and work on the various parts of an actual great
as the final class activity that will be designed to bring in funding to support KU
Indigenous Nations Studies Program.

CHANGE: NUMBER, TITLE

INS 804 SPECIAL TOPICS: INDIGENOUS RECORDS MANAGEMENT II
(OLD) A discussion of what constitutes a record and how to manage records at the business or
government level. This is a second level of records management leading to preparation
for taking the certification examination.
INS 868  INDIGENOUS RECORDS MANAGEMENT II  
(NEW) A discussion of what constitutes a record and how to manage records at the business or government level. This is a second level of records management leading to preparation for taking the certification examination.

CHANGE: NUMBER, TITLE

INS 804  SPECIAL TOPICS: TRADITIONAL CARE OF COLLECTIONS  
(OLD) A discussion of on traditional care issues of handling and preserving of indigenous belongings. The class will compare the methods of traditional care at tribal museums vs. conservation of Native items in mainstream museums.

INS 869  TRADITIONAL CARE OF COLLECTIONS  
(NEW) A discussion of on traditional care issues of handling and preserving of indigenous belongings. The class will compare the methods of traditional care at tribal museums vs. conservation of Native items in mainstream museums.

NEW COURSE

LAA 703  RESEARCH COLLOQUIUM ON BRAZIL (3)  
An interdisciplinary research seminar on historical and contemporary issues in Brazil, incorporating information and analysis from such fields as anthropology, economics, geography, history, political science, sociology, and Spanish and Portuguese literature and culture. Required for the Brazilian Graduate Certificate. Prerequisite: recommended reading proficiency in Portuguese. LEC

NEW COURSE

LAA 704  RESEARCH COLLOQUIUM ON CENTRAL AMERICA & MEXICO (3)  
An interdisciplinary research seminar on historical and contemporary issues in Central America and Mexico, incorporating information and analysis from such fields as anthropology, economics, geography, history, political science, sociology, and Spanish and Portuguese literature and culture. Required for the Central America & Mexico Graduate Certificate. Prerequisite: recommended reading proficiency in Spanish. LEC

B. FOR APPROVAL BY COLLEGE ASSEMBLY

CGS recommends for approval the following:

1. Economics Department Proposed Changes in Requirements for the Ph.D.

   I. Detailed Proposal

      A. Course Requirements

         The current requirements, stated in the Graduate School Catalog (p.229) are as follows:

         In addition to meeting the requirements of the Graduate School, the Ph.D. candidate in economics must complete a minimum of 48 credit hours of course work, at least 42 of which must be in economics. All Ph.D. candidates must complete these core courses in economic theory and quantitative methods:

         ECON 801 Microeconomic Theory
         ECON 802 General Equilibrium and Welfare Economics
         ECON 810 Macroeconomics I
         ECON 811 Macroeconomics II
         ECON 817 Econometrics I
         ECON 818 Econometrics II
The Economics Department is currently requesting a change in the title of ECON 801 to Microeconomics I (effective Fall 2005) and in the title of ECON 802 to Microeconomics II (effective Fall 2005).

The change in requirements is stated in the following paragraph:

In addition to meeting the requirements of the Graduate School, the Ph.D. candidate in economics must complete a minimum of 54 credit hours of course work, at least 48 of which must be in economics. All Ph.D. candidates must complete these core courses in economic theory and quantitative methods:

- ECON 801 Microeconomics I
- ECON 802 Microeconomics II
- ECON 810 Macroeconomics I
- ECON 811 Macroeconomics II
- ECON 817 Econometrics I
- ECON 818 Econometrics II
- ECON 800 Optimization Techniques I
- ECON 809 Optimization Techniques II

The Economics Department is currently requesting a change in course numbering for ECON 927 (to become ECON 800 effective Fall 2005) and for ECON 928 (to become ECON 809 effective Fall 2005).

B. Written Examinations

The current requirements, stated in the Graduate School Catalog (p. 229) are as follows:

Aspirants for the Ph.D. degree must pass a written departmental preliminary examination upon completion of the core courses in microeconomics, macroeconomics, and general equilibrium. Students with the proper background in mathematics and economics normally take this test after the first year of course work. The examination may be attempted no more than three times.

The following paragraph replaces the preceding paragraph to reflect the change in requirements for written examinations:

Aspirants for the Ph.D. degree must pass written preliminary examinations upon completion of the core courses in microeconomics and macroeconomics. These written examinations would normally be taken at the beginning of the fourth semester. A student may be permitted one retake, and this would normally occur at the end of the fourth semester.

II. Justification for the Proposal

A. Justification for Additional Core Course Requirements

The Economics Department has found in recent years that most of our entering Ph.D. students are not prepared well enough mathematically to succeed in graduate courses in economics. Ordinarily, students still need to take two semesters of remedial work in mathematics, and even this preparation is not always adequate since the prerequisite material for microeconomics and macroeconomics is not commonly taught in departments of mathematics. In recognition of this problem most economics departments
around the country currently require mathematical optimization courses, as we are proposing here, to better prepare their entering Ph.D. students for the rigorous theoretical study required in economics. This addition to course requirements necessarily adds 6 credit hours to the course requirement, hence the change from 48 to 54 hours.

B. Justification for Change in Written Examinations
The Economics Department is troubled by ill-prepared entering students taking from four to six semesters to attempt the written preliminary examinations. The proposed change, which is obviously facilitated by the preceding proposed change in course requirements, requires the Ph.D. student to take the written exams as soon as is feasible, namely after the completion of the student’s third semester of enrollment. The justification for allowing no more than one retake is that in our experience in the Economics Department, additional retakes really do not improve the student’s performance on the written exams, but merely delay the student’s inevitable dismissal from the program. As our current procedures permit, a student could literally spend a full calendar year trying to pass the written exams, and almost always in vain. The proposed change shortens the decision to one semester. This will facilitate better career planning for the student who retakes the written exam, but it will also enable the Economics Department to allocate graduate teaching assistantships more efficiently. Students who are preoccupied with retaking the written exams are typically not very effective graduate teaching assistants.

2. History Department New Language Requirement

The Problem:

A. The process of learning a foreign language is innately valuable to humanists, enriching understanding of the connections between thought, language, and culture.

B. Mastery of foreign languages is essential for some fields of historical study, but not for others. For many fields, language knowledge must comprise more than reading ability, but also speaking and writing, so that students can live abroad and participate in academic communities in foreign countries. For some fields, paleography is essential.

C. The department's current language requirement (following the Graduate School guidelines) misses both purposes enunciated above. For students who will be using foreign languages extensively in their careers, the "reading knowledge" courses fall far short of providing them with the proficiency, including speaking and writing, that they need. Exams that test only reading similarly fall short. For students who will not use foreign languages in their historical study, the "reading knowledge" courses provide little in the way of cultural enrichment, because they are short-term and focused on the mechanics. While in some cases the languages are essential to students' research programs, in others the students are merely overcoming a bureaucratic obstacle.

D. Some students have to devote considerable time to language acquisition, which slows their progress to the degree. While this problem is more pronounced in fields where multiple, difficult languages are essential (e.g. Ancient/Medieval, East Asia, Russia/Eastern Europe), it also afflicts other fields, including U.S. history. For example, language courses for students in Ancient/Medieval history can comprise as much as 28% of their total credit-hours. For students in U.S. history, as much as 14% of their credit-hours can be devoted to language study.
E. Many students do not have the language skills they need to write "publishable quality" seminar papers until several years after they enter. Consequently, either they delay fulfilling their seminar requirement until very late, or they write undergraduate-style (non-publishable) papers based on translations and secondary sources.

Solutions:

The solution to these problems lies in three areas:

A. Matching the requirement to functionality.

What kind of linguistic knowledge and skill does each student need for his/her professional endeavors? Greater linguistic skill is, of course, always beneficial, but given the demands on our students' time and energy, requirements should focus on necessary skills, not electives, no matter how worthwhile.

1. Instead of a single department (or US/non-US) language requirement, requirements will be set requirements for students individually, within guidelines set by fields. For some fields, reading knowledge of a single language (for example, Cherokee for a specialist in Native American history) may be enough. For others, reading, speaking, and writing proficiency (for example, Spanish for a specialist in Latin American history) may be called for. For some fields, one language is all that is necessary. For other fields, two languages may be necessary and others advisable.

2. To prevent fields from establishing excessively high or excessively low standards, the department establishes these parameters:
   a. All graduate students must have experience in at least one foreign language.
   b. No graduate student will be required to demonstrate proficiency in more than two foreign languages.
   c. Students who feel that their field requirements are unreasonable may appeal to the Graduate Board.

B. Flexibility in how students can demonstrate language competence.

1. When students will be using the foreign language for their primary research, they can demonstrate competence by:
   a. Native speaker status.
   b. Coursework at KU or elsewhere through the intermediate (second year) level, coupled with extensive use of the language in seminar and colloquium papers.
   c. Coursework at KU or elsewhere through the advanced (third year) level.
   d. A test of language skill (reading only, or reading, speaking, and writing, as appropriate) designed by the field and graded in consultation with the appropriate foreign language department.

2. When students will not be using the foreign language for their primary research, they can demonstrate competence by:
   a. Native speaker status.
   b. Coursework at KU or another university.
   c. A test of reading skill (usually, a passage to translate) designed by the field and graded in consultation with the appropriate foreign language department.
   d. A graduate reading knowledge course taken at KU.
C. Adjusting departmental expectations to allow for the time involved in extensive language acquisition.

1. If the department requires working proficiency in the primary research language as a condition of admission, students will be able to make progress in fulfilling degree requirements from the beginning. To achieve this end:
   a. M.A. students will be required to demonstrate competence in their primary research language in their first year.
   b. Ph.D. students must demonstrate competence in order to gain admission to the program.

2. Otherwise promising applicants who lack necessary language preparation may be admitted provisionally, with their enrollment deferred for one year. In the interim, they must acquire the necessary level of language proficiency. Candidates who would like to study language at KU will be admitted to the department as non-degree students for that year.

3. Students whose fields require multiple languages and/or advanced expertise (fifth-year instruction, paleography, etc.) totaling 18 credit-hours or more, may be considered for an additional year of funding from the department.
History Department Foreign Language Certification Form

Name ___________________________         Date ______________

Major field ___________________________          Advisor ____________

Minor fields ___________________________                      ______________________________

Prospective dissertation area ________________________________

Foreign language to be certified ____________________________________________

Primary research language? (y/n) __________

For language used in primary research:

Skills needed:  reading _____    writing _____    speaking _____   paleography _____

Competence demonstrated through:

_____ Native speaker status.

_____ Coursework through intermediate (2nd year) level, with use in a graduate
    seminar or colloquium paper (submit transcript and paper).

_____ Coursework through advanced (3rd year) level (submit transcript).

_____ Test of language skill (submit report).

For language used intermittently:

_____ Native speaker status.

_____ Coursework through the intermediate (2nd year) level (submit transcript).

_____ Test of reading skill (submit report).

_____ Graduate reading knowledge course (submit transcript).

Approved (signatures):

Advisor __________________________     Graduate Director ________________
III. REPORT OF THE COMMITTEE ON UNDERGRADUATE STUDIES AND ADVISING (CUSA)

Presented by Chris Haufler, CUSA Chair; submitted by Bridget Bradley

A. CURRICULAR CHANGES:

NEW CROSS-LISTED COURSE

AAAS 349 ISLAM 3 H
Islam's Origins, the prophet Muhammad, the Holy Koran, religious symbols and moral mandates, and historical developments. (Same as REL 350.)

NEW CROSS-LISTED COURSE

AAAS 450 POPULAR CULTURE IN THE MUSLIM WORLD 3 H
A study of pop songs, television, comics, and other idioms of popular culture from different parts of the Muslim world, with attention to Muslims' sense of humor, tragedy, aesthetics, and pertinent issues of the day. (Same as REL 450.)

NEW CROSS-LISTED COURSE

AAAS 552 CLASSICAL ISLAMIC LITERATURE 3 H
An examination of major developments in classical Islamic literature in the Middle East and beyond, with attention to the poetic and prose works (in translation) that emerged from them. (Same as REL 552.)

NEW CROSS-LISTED COURSE

AAAS 650 SUFISM 3 H
A survey of developments in Sufi (Islamic Mystical) thought, poetry, and ritual throughout Muslim history and across the Muslim world. Prerequisite: AAAS 349/REL 350 or permission of instructor. (Same as REL 650.)

NEW CROSS-LISTED COURSE

AAAS 657 GENDER IN ISLAM AND SOCIETY 3 H
An investigation of the relationship between Islam, and gender roles and status in religious texts (Quran and Hadith) and in societies across the Muslim world, past and present. Prerequisite: AAAS 349/REL 350 or permission of instructor. (Same as REL 657.)

CHANGE: REMOVE CROSS-LISTING

AMS 501 COMMUNITY DEVELOPMENT 3 S
(OLD) A multi-disciplinary seminar exploring the political, economic, physical, and environmental variables affecting the quality of life in neighborhoods. Emphasis on factors which might promote individual and community self-reliance and satisfaction. (Same as HDFL 501 and POLS 519.) Prerequisite: An introductory course in social science or consent of instructor.

AMS 501 COMMUNITY DEVELOPMENT 3 S
(NEW) A multi-disciplinary seminar exploring the political, economic, physical, and environmental variables affecting the quality of life in neighborhoods. Emphasis on factors which might promote individual and community self-reliance and satisfaction. (Same as POLS 519.) Prerequisite: An introductory course in social science or consent of instructor.
CHANGE: COURSE DESCRIPTION

ATMO 505  WEATHER FORECASTING  3 N
(OLD) A lecture and laboratory course on the theory and techniques of weather forecasting. Students will receive instruction on numerical weather prediction, map analysis, and interpretation techniques. Current data, 24 hour, 48 hour, 3 and 5 day numerical forecasts received from the National Meteorological Center will be interpreted and modified in the laboratory to make daily weather forecasts. Prerequisite: Atmo 105; one other atmospheric science or computer science course; Math 121.

ATMO 505  WEATHER FORECASTING  3 N
(NEW) A first course in synoptic meteorology designed to introduce students to weather analysis and forecasting through the application of hydrodynamic and thermodynamic principles to operational analysis and forecasting. Topics include analysis and interpretation of surface and upper-air observations and data from satellites, radars, and wind profilers; chart and sounding analysis; and three-dimensional, conceptual models of weather systems. The course includes student-led weather briefings and analysis exercises. Prerequisite: ATMO 105; one other atmospheric science or computer science course; MATH 121.

CHANGE: PREREQUISITE CREDIT

BIOL 102  PRINCIPLES OF BIOLOGY LABORATORY  2 N
(OLD) Intended for non-science majors. Exercises are designed to give the students hands-on experience with selected topics from the associated lecture course (BIOL 100). An honors laboratory (BIOL 103) is offered for students with superior academic records. Prerequisite: Concurrent or prior enrollment in BIOL 100.

BIOL 102  PRINCIPLES OF BIOLOGY LABORATORY  1 N
(NEW) Intended for non-science majors. Exercises are designed to give the students hands-on experience with selected topics from the associated lecture course (BIOL 100). Prerequisite: Concurrent enrollment in BIOL 100 is recommended.

CHANGE: COURSE DESCRIPTION, PREREQUISITE CREDIT

BIOL 103  PRINCIPLES OF BIOLOGY LABORATORY, HONORS  2 N
(OLD) Intended for non-science majors with superior academic records. Students perform selected experiments and take field trips designed to complement the material presented in the associated lecture course (BIOL 101). Prerequisite: Concurrent or prior enrollment in BIOL 101. Membership in the College Honors Program or consent of instructor.

BIOL 103  PRINCIPLES OF BIOLOGY LABORATORY, HONORS  1 N
(NEW) Intended for non-science majors with superior academic records. Exercises are designed to give the students hands-on experience with selected topics from the associated lecture course (BIOL 101). Prerequisite: Membership in the College Honors Program or consent of instructor. Concurrent enrollment in BIOL 101 is recommended.

CHANGE: COURSE DESCRIPTION, PREREQUISITE

BIOL 400  FUNDAMENTALS OF MICROBIOLOGY  3 N
(OLD) Fundamental principles of microbiology with emphasis on physical and chemical properties of the bacterial cell; microbial metabolism, cultivation, growth and death of bacteria; microbial genetics, pathogenesis and immunity, industrially important microorganisms. Prerequisite: Two semesters of college chemistry.
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<tr>
<td><strong>BIOL 400</strong></td>
<td>FUNDAMENTALS OF MICROBIOLOGY 3 N</td>
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<td>(NEW)</td>
<td>Fundamental principles of microbiology with emphasis on physical and chemical properties of the bacterial cell; microbial metabolism, cultivation, growth and death of bacteria; microbial genetics, pathogenesis and immunity, industrially important microorganisms. Meets with BIOL 612. Prerequisite: BIOL 150 or BIOL 151 and two semesters of college chemistry, or consent of the instructor.</td>
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<td><strong>BIOL 401</strong></td>
<td>FUNDAMENTALS OF MICROBIOLOGY, HONORS 3 N</td>
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<tr>
<td>(OLD)</td>
<td>Honors section of BIOL 400 and BIOL 612, by application and invitation. Prerequisite: Two semesters of college chemistry and membership in the University Honors Program.</td>
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<td>(NEW)</td>
<td>Honors section of BIOL 400 and BIOL 612, by application and invitation. Prerequisite: BIOL 151, two semesters of college chemistry, and membership in the University Honors Program, or consent of the instructor.</td>
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<td><strong>BIOL 405</strong></td>
<td>LABORATORY IN GENETICS 2 U</td>
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<tr>
<td>(OLD)</td>
<td>A laboratory program which includes written reports on fruit fly crosses, exercises on meiosis, probability and statistics, human genetics and computer simulations of genetics problems. Prerequisite: Concurrent or prior (preferred) enrollment in BIOL 404 or its equivalent.</td>
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<td>(NEW)</td>
<td>A laboratory program which includes written reports on fruit fly crosses, exercises on meiosis, probability and statistics, human genetics and computer simulations of genetics problems. Prerequisite: Concurrent or prior (preferred) enrollment in BIOL 350 or its equivalent.</td>
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<td><strong>BIOL 408</strong></td>
<td>PHYSIOLOGY OF ORGANISMS 3 N</td>
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<tr>
<td>(OLD)</td>
<td>A comprehensive and integrative approach to the study of organisms with an emphasis on physiological, ecological, structural, and behavioral adaptations to differing environments. Prerequisite: BIOL 152, or BIOL 153, and CHEM 184 or exemption.</td>
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<td>PHYSIOLOGY OF ORGANISMS, LABORATORY 2 U</td>
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<tr>
<td>(OLD)</td>
<td>The laboratory exposes the students to the structure and function of the major groups of animals and plants. Students use basic techniques of biological observation, such as microscopy and dissection, and experimental techniques to analyze plant and animal function. Prerequisite: Concurrent or prior enrollment in BIOL 408. Laboratory is elective.</td>
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<td>BIOL 409</td>
<td>PHYSIOLOGY OF ORGANISMS, LABORATORY</td>
<td>The laboratory exposes the students to the structure and function of the major groups of animals and plants. Students use basic techniques of biological observation, such as microscopy and dissection, and experimental techniques to analyze plant and animal function. Prerequisite: Concurrent or prior enrollment in BIOL 408, or consent of the instructor.</td>
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<tr>
<td>BIOL 412</td>
<td>EVOLUTIONARY BIOLOGY</td>
<td>Introduction to the patterns and processes of organic evolution. Considered are the history of evolutionary thought, molecular evolution, genetics and microevolution, selection and adaptation, and speciation and macroevolution. Emphasis will be placed on how scientists study and document change over time in natural populations, methods for testing hypotheses about events in evolutionary history, and how discovering evolutionary mechanisms at one level of organization can help to explicate general processes in the natural world. Prerequisite: BIOL 152.</td>
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<tr>
<td>BIOL 413</td>
<td>HISTORY AND DIVERSITY OF ORGANISMS</td>
<td>An integrated lecture and laboratory course presenting an overview of the variety and ancestry of life on earth. Using representatives from prokaryotes, protists, plants, fungi, and animals, principles of phylogenetic reconstruction are illustrated and evolutionary trends in the life history features, functional morphology, and structural complexity of extant and extinct organisms are presented. Two hours of lecture and three hours of laboratory per week. Prerequisite: BIOL 100, BIOL 101, BIOL 150, or BIOL 151, and BIOL 152 or BIOL 153.</td>
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<td>BIOL 414</td>
<td>PRINCIPLES OF ECOLOGY</td>
<td>Study of the principles underlying species population density changes, community structure and dynamics, biogeochemical cycles, and energy flow and nutrient cycling in ecosystems. Prerequisite: BIOL 100, BIOL 101, BIOL 150, or BIOL 151, and BIOL 152 or BIOL 153.</td>
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BIOL 414  PRINCIPLES OF ECOLOGY  3  N
Study of the principles underlying species population density changes, community
structure and dynamics, biogeochemical cycles, and energy flow and nutrient cycling in
ecosystems. Prerequisite: BIOL 152 or BIOL 153, or consent of the instructor.

CHANGE: PREREQUISITE

BIOL 416  CELL STRUCTURE AND FUNCTION  3  N
Lecture survey of cell biology, with emphasis on correlating cell architecture with cell
function; topics considered include general cell types, cell evolution, macromolecules,
membranes, ultra-structure and function of organelles, motility, transport phenomena,
and the cell life cycle. Prerequisite: BIOL 100, BIOL 101, BIOL 150, BIOL 151, or
exemption. CHEM 624 is highly recommended.

CHANGE: PREREQUISITE

BIOL 416  CELL STRUCTURE AND FUNCTION  3  N
Lecture survey of cell biology, with emphasis on correlating cell architecture with cell
function; topics considered include general cell types, cell evolution, macromolecules,
membranes, ultra-structure and function of organelles, motility, transport phenomena,
and the cell life cycle. Prerequisite: BIOL 150 or consent of instructor. BIOL 350 and
CHEM 624 are highly recommended.

CHANGE: PREREQUISITE

BIOL 417  BIOLOGY OF DEVELOPMENT  3  N
A general course designed to introduce students to the developmental biology of plants
and animals. Emphasis is placed on understanding the concepts of morphogenesis,
growth, cell differentiation and aging. Lectures will stress experimental approaches to
investigating how single cells develop into complex, multicellular organisms.
Prerequisite: BIOL 100, BIOL 101, BIOL 150, BIOL 151, or exemption.

CHANGE: PREREQUISITE

BIOL 417  BIOLOGY OF DEVELOPMENT  3  N
A general course designed to introduce students to the developmental biology of plants
and animals. Emphasis is placed on understanding the concepts of morphogenesis,
growth, cell differentiation and aging. Lectures stress experimental approaches to
investigating how single cells develop into complex, multicellular organisms.
Prerequisite: BIOL 350 or consent of the instructor.

CHANGE: PREREQUISITE

BIOL 426  LABORATORY IN CELL BIOLOGY  3  N
Laboratory exercises will examine the function, organization, and composition of
eukaryotic cells. Prerequisite: BIOL 150 or exemption, and CHEM 184. Concurrent
enrollment in BIOL 416 is recommended.

CHANGE: PREREQUISITE

BIOL 426  LABORATORY IN CELL BIOLOGY  3  N
Laboratory exercises examine the function, organization, and composition of eukaryotic
cells. Prerequisite: BIOL 150 and CHEM 184, concurrent or prior enrollment in BIOL
416, or consent of the instructor. BIOL 350 is highly recommended.

CHANGE: PREREQUISITE

BIOL 435  INTRODUCTION TO NEUROBIOLOGY  3  N
Basic principles of neurobiology. The focus will be on the nature of communication
among nerve cells and their targets. Topics will include the development, structure and
function of nerve cells, chemistry of neurotransmission, processing and integration
including the cellular and molecular basis of higher functions and neurological disorders.
Prerequisite: BIOL 100, BIOL 101, BIOL 150, or BIOL 151.
BIOL 435  INTRODUCTION TO NEUROBIOLOGY  3  N
Basic principles of neurobiology. The focus is on the nature of communication among nerve cells and their targets. Topics include the development, structure and function of nerve cells, chemistry of neurotransmission, processing and integration including the cellular and molecular basis of higher functions and neurological disorders. Prerequisite: BIOL 150 or BIOL 151.

CHANGE:  PREREQUISITE

BIOL 494  INTRODUCTION TO MAMMALOGY  3  U
A study of mammals, with emphasis on evolution, biogeography, systematics, and natural history. Lectures, laboratory, and field study. Prerequisite: An introductory course in biology or permission or instructor.

BIOL 494  INTRODUCTION TO MAMMALOGY  3  N
A study of mammals, with emphasis on evolution, biogeography, systematics, and natural history. Lectures, laboratory, and field study. Prerequisite: BIOL 152 or 153 or permission of instructor.

CHANGE:  CREDIT

BIOL 502  BIOLOGY OF INSECTS, LABORATORY  1  U
Laboratory and field studies of insects, emphasizing their diversity and classification, ecological relationships, morphology, and behavior. Course will be correlated with BIOL 500 to provide practical application of principles. Prerequisite: Concurrent or prior enrollment in BIOL 500.

BIOL 502  BIOLOGY OF INSECTS  2  U
Laboratory and field studies of insects, emphasizing their diversity and classification, ecological relationships, morphology, and behavior. Course is correlated with BIOL 500 to provide practical application of principles. Prerequisite: Concurrent or prior enrollment in BIOL 500.

CHANGE:  PREREQUISITE

BIOL 505  SOCIAL INSECTS  3  N
Lectures and laboratory demonstrations on presocial and social insects, specifically termites, ants, wasps, and bees. Emphasis will be placed on evolution of social behavior and the place of social insects in sociobiology. Prerequisite: BIOL 100, BIOL 101, BIOL 152, BIOL 153, or equivalent.

BIOL 505  SOCIAL INSECTS  3  N
Lectures and laboratory demonstrations on presocial and social insects, specifically termites, ants, wasps, and bees. Emphasis is placed on evolution of social behavior and the place of social insects in sociobiology. Prerequisite: BIOL 152, BIOL 153, or equivalent.

CHANGE:  PREREQUISITE

BIOL 506  PATHOGENIC MICROBIOLOGY  3  N
Lectures. Characteristics and mechanisms of pathogenic microorganisms and disease processes. Elements of host-parasite interactions. Not open to freshmen or sophomores. Prerequisite: One introductory microbiology course and one course in immunology, or consent of instructor.
BIOL 506  PATHOGENIC MICROBIOLOGY  3 N
(NEW) Lectures. Characteristics and mechanisms of pathogenic microorganisms and disease processes. Elements of host-parasite interactions. Not open to freshmen or sophomores. Prerequisite: BIOL 503, or consent of instructor.

CHANGE: PREREQUISITE

BIOL 507  PATHOGENIC MICROBIOLOGY LABORATORY  2 U
(OLD) Laboratory to complement BIOL 506. Cultivation of pathogenic microorganisms, diagnostic procedures, and experiments to demonstrate various aspects of microbial pathogenicity and host responses. Prerequisite: One course in introductory microbiology and introductory microbiology lab, and BIOL 506 (or concurrently).

BIOL 507  PATHOGENIC MICROBIOLOGY LABORATORY  2 U
(NEW) Laboratory to complement BIOL 506. Cultivation of pathogenic microorganisms, diagnostic procedures, and experiments to demonstrate various aspects of microbial pathogenicity and host responses. Prerequisite: BIOL 402 and BIOL 506 (or concurrent enrollment) or consent of instructor.

DELETE COURSE

BIOL 508  ENVIRONMENTAL ENTOMOLOGY  3 N
Examines the position of insects in the environment with emphasis on their involvement in human lifestyles. The focus will be on their roles as humanity

CHANGE: PREREQUISITE

BIOL 509  BIOLOGY OF SPIDERS  2 N
(OLD) An introduction to the evolution, anatomy, physiology, behavior, and ecology of spiders and other arachnids. Special topics include the action of spider venoms; the composition and uses of silk; courtship and mating; predation; social behavior; and the role of spiders in natural and agricultural ecosystems. Concurrent enrollment in BIOL 511 is encouraged. Prerequisite: Introductory biology or permission of instructor.

BIOL 509  BIOLOGY OF SPIDERS  2 N
(NEW) An introduction to the evolution, anatomy, physiology, behavior, and ecology of spiders and other arachnids. Special topics include the action of spider venoms; the composition and uses of silk; courtship and mating; predation; social behavior; and the role of spiders in natural and agricultural ecosystems. Concurrent enrollment in BIOL 511 is encouraged. Prerequisite: BIOL 152, BIOL 153 or permission of instructor.

CHANGE: PREREQUISITE

BIOL 512  GENERAL VIROLOGY  3 U
(OLD) Lectures and discussions covering the basic nature and characteristics of viruses from a general biological point of view: viruses of bacteria, animals and plants, physicalchemical properties; host cell-viral interactions; mode of replication of DNA and RNA viruses, tumor viruses. Prerequisite: An introductory course in microbiology or consent of instructor.

BIOL 512  GENERAL VIROLOGY  3 U
(NEW) Lectures and discussions covering the basic nature and characteristics of viruses from a general biological point of view: viruses of bacteria, animals and plants, physicalchemical properties; host cell-viral interactions; mode of replication of DNA and RNA viruses, tumor viruses. Prerequisite: BIOL 400, BIOL 401 or consent of instructor.
BIOL 513 Virology Laboratory 2 U
Experiments involving cultivation, quantitation, and identification of animal viruses, continuous cell culture and primary chicken embryo culture techniques. Molecular biology techniques are used to demonstrate the steps in virus replication. The value of viruses as tools to understand normal cellular processes is emphasized in experiments which demonstrate the relative simplicity of viruses and the relative complexity of eukaryotic cells. Demonstrations include transformation of cells by tumor viruses and electron microscopy of virus particles. Prerequisite: A laboratory course in introductory microbiology and BIOL 512.

BIOL 513 Virology Laboratory 2 U
Experiments involving cultivation, quantitation, and identification of animal viruses, continuous cell culture and primary chicken embryo culture techniques. Molecular biology techniques are used to demonstrate the steps in virus replication. The value of viruses as tools to understand normal cellular processes is emphasized in experiments which demonstrate the relative simplicity of viruses and the relative complexity of eukaryotic cells. Demonstrations include transformation of cells by tumor viruses and electron microscopy of virus particles. Prerequisite: BIOL 402 and BIOL 512, or consent of instructor.

BIOL 518 Microbial Genetics 3 N

BIOL 518 Microbial Genetics 3 N
Bacteria and viruses as models of genetic systems. Mutagenesis and repair. Transformation, transductions, and recombination. Molecular biology of gene expression. Prerequisite: BIOL 350 and BIOL 400 or BIOL 401, or consent of instructor.

BIOL 519 Microbial Genetics Laboratory 2 U
Laboratory designed to complement BIOL 518. Prerequisite: BIOL 518, or BIOL 518 concurrently.

BIOL 519 Microbial Genetics Laboratory 2 U
Laboratory designed to complement BIOL 518. Prerequisite: BIOL 402, BIOL 518, or BIOL 518 concurrently.

BIOL 536 Cell Structure and Function (Honors) 3 N
Lecture and discussion course for highly qualified and motivated students to provide a more thorough treatment of the topics covered in BIOL 416. Students enrolled in BIOL 536 attend the BIOL 416 lectures and an additional 1.5-2.0 hour tutorial period devoted to the discussion of advanced topics and the development of problem solving skills. Exams will be separate from BIOL 416. Open to students in the Honors program or by permission of instructor. Prerequisite: BIOL 150 or BIOL 151.
BIOL 536  CELL STRUCTURE AND FUNCTION (HONORS)  3 N
(NEW) Lecture and discussion course for highly qualified and motivated students to provide a more thorough treatment of the topics covered in BIOL 416. Students enrolled in BIOL 536 attend the BIOL 416 lectures and an additional 1.5-2.0 hour tutorial period devoted to the discussion of advanced topics and the development of problem solving skills. Exams will be separate from BIOL 416. Open to students in the Honors program or by permission of instructor. Prerequisite: BIOL 350.

DELETE COURSE

BIOL 544  APPLIED MICROBIOLOGY  5 N
Lectures and laboratory. Industrial or commercial use of microorganisms. Microbial and biochemical aspects of industrial fermentations and descriptions of the various processes involved in the production of commercial products. The laboratory will include pilot-scale operation fermentation processes employed in industry, and analysis of the products. Prerequisite: One year of organic chemistry and one semester of microbial physiology, or consent of instructor.

DELETE COURSE

BIOL 556  GENERAL PLANT PHYSIOLOGY LABORATORY  2 N
Experiments on photosynthesis, respiration, water relations, mineral nutrition, and factors associated with morphogenesis. Concurrent enrollment in BIOL 555 recommended, otherwise consult instructor. Prerequisite: BIOL 408 or consent of instructor.

CHANGE: PREREQUISITE

BIOL 595  HUMAN GENETICS  3 N
(OLD) A lecture course providing balanced coverage of Mendelian and molecular genetics of humans; includes discussions and presentations on current issues in human and medical genetics. Prerequisite: A course in genetics.

BIOL 595  HUMAN GENETICS  595 N
(NEW) A lecture course providing balanced coverage of Mendelian and molecular genetics of humans; includes discussions and presentations on current issues in human and medical genetics. Prerequisite: BIOL 350.

NEW COURSE

BIOL 599  SENIOR SEMINAR: _____  1 N
A synthesis and discussion of current trends in a discipline or disciplines related to one of the degrees offered in the biological sciences. Emphasis is placed on providing seniors with an appreciation of the discipline's state-of-the-art and on developing skills for success in the next stage of a career in the biological sciences. Topics depend on the associated degree program. Prerequisite: Must be taken in the final year of a degree and students must have completed most of the course work required for one of the degrees in the biological sciences.

CHANGE: PREREQUISITE

BIOL 600  INTRODUCTORY BIOCHEMISTRY, LECTURES  4 N
(OLD) Designed to offer the essentials of the chemistry of the constituents of living organisms and the changes these constituents undergo (during life processes) in the human body and other living forms. Prerequisite: One semester of organic chemistry.
BIOL 600 INTRODUCTORY BIOCHEMISTRY, LECTURES 4 N
Designed to offer the essentials of the chemistry of the constituents of living organisms and the changes these constituents undergo (during life processes) in the human body and other living forms. Prerequisite: BIOL 150 or BIOL 151 and one semester of organic chemistry.

CHANGE: COURSE DESCRIPTION

BIOL 606 ECOLOGICAL PLANT PHYSIOLOGY 3 N
Physiological responses of higher plants to environmental factors will be discussed. Major topics will be: water relations, heat transfer, resistance to water and temperature stress, dormancy, photoperiodism, photosynthesis and respiration under natural conditions, effects of environmental pollution. Course is supplementary to BIOL 602 and BIOL 604. Prerequisite: BIOL 408 or consent of instructor.

CHANGE: PREREQUISITE

BIOL 606 ECOLOGICAL PLANT PHYSIOLOGY 3 N
Physiological responses of higher plants to environmental factors are discussed. Major topics are: water relations, heat transfer, resistance to water and temperature stress, dormancy, photoperiodism, photosynthesis and respiration under natural conditions, and effects of environmental pollution. Prerequisite: BIOL 408 or consent of instructor.

CHANGE: PREREQUISITE

BIOL 607 FIELD AND LABORATORY EXERCISES IN PLANT ECOLOGY 2 U
Introduction to quantitative analysis of plant communities and correlated environmental parameters; field and/or laboratory measurements of ecophysiological traits and comparative ecomorphology of principal species. Prerequisite: BIOL 413. Concurrent enrollment in parallel lecture, BIOL 602, recommended, but not required.

CHANGE: PREREQUISITE

BIOL 607 FIELD AND LABORATORY EXERCISES IN PLANT ECOLOGY 2 U
Introduction to quantitative analysis of plant communities and correlated environmental parameters; field and/or laboratory measurements of ecophysiological traits and comparative ecomorphology of principal species. Prerequisite: BIOL 414. Concurrent enrollment in parallel lecture, BIOL 602, recommended, but not required.

CHANGE: PREREQUISITE

BIOL 608 DEVELOPMENTAL PLANT ANATOMY 4 N
A study of the anatomy of the vascular plants, using both traditional and modern techniques. The origin and structure of cell types and tissues of the various plant organs along with their ecological, phylogenetic, taxonomic and functional significance. Two one-hour lectures and 2 three-hour laboratory sessions each week. Prerequisite: BIOL 100, BIOL 101, BIOL 150, BIOL 151, and BIOL 152 or BIOL 153; BIOL 413.

CHANGE: PREREQUISITE

BIOL 608 DEVELOPMENTAL PLANT ANATOMY 4 N
A study of the anatomy of the vascular plants, using both traditional and modern techniques. The origin and structure of cell types and tissues of the various plant organs along with their ecological, phylogenetic, taxonomic and functional significance. Two one-hour lectures and 2 three-hour laboratory sessions each week. Prerequisite: BIOL 152 or BIOL 153; BIOL 413; or consent of instructor.
CHANGE: PREREQUISITE

BIOL 610  
(OLD)  
PLANT KINGDOM  4 N  
A comparative morphological survey of the structural diversity, life cycles, origins, and patterns of evolution in the two basic groups of the plant kingdom, the bryophytes (mosses and liverworts) and the tracheophytes (ferns, gymnosperms, and flowering plants). Three one-hour lectures and one three-hour laboratory each week. Prerequisite: BIOL 152 or BIOL 153. BIOL 413 or equivalent recommended.

BIOL 610  
(NEW)  
PLANT KINGDOM  4 N  
A comparative morphological survey of the structural diversity, life cycles, origins, and patterns of evolution in the two basic groups of the plant kingdom, the bryophytes (mosses and liverworts) and the tracheophytes (ferns, gymnosperms, and flowering plants). Three one-hour lectures and one three-hour laboratory each week. Prerequisite: BIOL 152 or BIOL 153 and BIOL 413 or consent of instructor.

CHANGE: PREREQUISITE

BIOL 611  
(OLD)  
MOLECULAR SYSTEMATICS AND EVOLUTION  4 N  
An introduction to the use of molecular data in systematics and population biology. Topics include: evolution of genes and proteins; properties of mitochondrial DNA, chloroplast DNA, ribosomal RNA genes, protein- coding genes, and repetitive DNAs; laboratory methods for data collection; and data analysis. Prerequisite: A course in genetics. A course in systematics is recommended.

BIOL 611  
(NEW)  
MOLECULAR SYSTEMATICS AND EVOLUTION  4 N  
An introduction to the use of molecular data in systematics and population biology. Topics include: evolution of genes and proteins; properties of mitochondrial DNA, chloroplast DNA, ribosomal RNA genes, protein- coding genes, and repetitive DNAs; laboratory methods for data collection; and data analysis. Prerequisite: BIOL 350. BIOL 550 or equivalent is recommended.

CHANGE: PREREQUISITE

BIOL 612  
(OLD)  
FUNDAMENTALS OF MICROBIOLOGY  3 N  
Lectures. Fundamental principles of microbiology with emphasis in physical and chemical properties of the bacterial cell; microbial metabolism, cultivation, growth and death of bacteria; microbial genetics; pathogenesis and immunity, industrially important microorganisms. Meets with BIOL 400, but students will be given additional and more advanced assignments, and will carry higher expectations. Prerequisite: Two semesters of college chemistry.

BIOL 612  
(NEW)  
FUNDAMENTALS OF MICROBIOLOGY  3 N  
Fundamental principles of microbiology with emphasis in physical and chemical properties of the bacterial cell; microbial metabolism, cultivation, growth and death of bacteria; microbial genetics; pathogenesis and immunity, industrially important microorganisms. Meets with BIOL 400, but includes additional and more advanced assignments, and carries higher expectations. Prerequisite: BIOL 150 or BIOL 151 and two semesters of college chemistry, or consent of instructor.
BIOL 618  PRINCIPLES OF APPLIED ENTOMOLOGY  3 N
Insect pest management systems with a focus on agricultural entomology, including crop management operations, use of chemicals, microbial insect pathogens and other biological control agents; insect vectors of plant pathogens. Prerequisite: BIOL 500.

BIOL 620  PHYSIOLOGICAL ECOLOGY  3 N
(OLD) Ecological consequences of physiological characteristics of animals. Topics include water balance, temperature regulation, energy utilization, physiological variation, life histories, historical factors, and body size. Prerequisite: BIOL 408 or BIOL 414 or equivalent.

(NEW) Ecological consequences of physiological characteristics of animals. Topics include water balance, temperature regulation, energy utilization, physiological variation, life histories, historical factors, and body size. Prerequisite: BIOL 408 or equivalent.

DELETE COURSE
BIOL 621  MEDICAL PARASITOLOGY  3 N
A survey of the major protozoan and helminth diseases with emphasis on the epidemiology, life cycles, morphology, pathogenicity, and treatment. In-depth studies will include the traditional diseases of Third-World countries as well as parasites associated with changing life styles in the United States.

CHANGE: PREREQUISITE
BIOL 625  BEHAVIORAL ECOLOGY AND SOCIOBIOLOGY  3 N
(OLD) The role of natural selection in animal behavior, and the influence of behavior on population biology and social dynamics of animal species. Topics include: game theory and optimization as applied to animal behavior; altruism, cooperation and competition; kin recognition and interactions; group formation and dynamics, dominance, aggression, and territoriality; feeding strategies; reproductive behavior including mate choice, parental care, and mating systems.

(NEW) The role of natural selection in animal behavior, and the influence of behavior on population biology and social dynamics of animal species. Topics include: game theory and optimization as applied to animal behavior; altruism, cooperation and competition; kin recognition and interactions; group formation and dynamics, dominance, aggression, and territoriality; feeding strategies; reproductive behavior including mate choice, parental care, and mating systems. Prerequisite: BIOL 152; either BIOL 350, BIOL 412 or BIOL 414 recommended; or consent of instructor.

CHANGE: PREREQUISITE
BIOL 644  COMPARATIVE ANIMAL PHYSIOLOGY  3 N
Lecture and discussion of the basic mechanism of organic maintenance and integration; a comparative treatment of the uniformities and diversity of animal function; emphasis on environmental adaptations and evolutionary relationships. Prerequisite: BIOL 408, five hours of organic chemistry, and one year of college physics.
BIOL 644  COMPARATIVE ANIMAL PHYSIOLOGY  3  N
Lecture and discussion of the basic mechanism of organic maintenance and integration; a comparative treatment of the uniformities and diversity of animal function; emphasis on environmental adaptations and evolutionary relationships. Prerequisite: BIOL 408, five hours of organic chemistry, and one year of college physics, or consent of instructor.

BIOL 652  COMPARATIVE ANIMAL BEHAVIOR  3  N
A comparative analysis of behavior as an adaptive mechanism; emphasis on ontogenetic and evolutionary aspects of behavior. Prerequisite: BIOL 100, BIOL 101, BIOL 152, BIOL 153, or PSYC 104.

BIOL 652  COMPARATIVE ANIMAL BEHAVIOR  3  N
A comparative analysis of behavior as an adaptive mechanism; emphasis on ontogenetic and evolutionary aspects of behavior. Prerequisite: BIOL 152 or BIOL 153, and PSYC 104, or consent of instructor.

BIOL 660  LIMNOLOGY AND AQUATIC ECOLOGY  3  N
An introduction to the biological, chemical, and physical processes that characterize aquatic ecosystems. Discussion of current research papers. Prerequisite: General ecology (BIOL 412 or equivalent) or permission of instructor.

BIOL 660  LIMNOLOGY AND AQUATIC ECOLOGY  3  N
An introduction to the biological, chemical, and physical processes that characterize aquatic ecosystems. Discussion of current research papers. Prerequisite: General ecology (BIOL 414 or equivalent) or permission of instructor.

BIOL 661  STREAM ECOLOGY  3  N
Population, community, and ecosystem ecology in flowing water habitats from ephemeral creeks to large rivers. The course will emphasize biological phenomena, but physical and chemical processes will be discussed. Prerequisite: Principles of Ecology (BIOL 414). Co-enrollment in Stream Ecology Laboratory (BIOL 668) is recommended.

BIOL 661  STREAM ECOLOGY  3  N
Population, community, and ecosystem ecology in flowing water habitats from ephemeral creeks to large rivers. The course emphasizes biological phenomena, but physical and chemical processes are discussed. Prerequisite: BIOL 414 or equivalent, or consent of instructor. Concurrent enrollment in Stream Ecology Laboratory. BIOL 668 is recommended.

BIOL 663  PLANKTON ECOLOGY  3  N
A lecture, laboratory, and field course focusing on freshwater phytoplankton and zooplankton including the study of their life history, taxonomy, ecophysiology and the relationship of plankton to the environment. Prerequisite: Basic course in limnology or exemption.
BIOL 663  PLANKTON ECOLOGY  3  N
(NEW) A lecture, laboratory, and field course focusing on freshwater phytoplankton and zooplankton including the study of their life history, taxonomy, ecophysiology and the relationship of plankton to the environment. Prerequisite: BIOL 660 or equivalent, or consent of instructor.

CHANGE: PREREQUISITE

BIOL 664  VERTEBRATE BIOLOGY  3  N
(OLD) A laboratory course emphasizing principles of systematics and identification and the behavioral ecology of local vertebrate animals. Prerequisite: A course in biology.

BIOL 664  VERTEBRATE BIOLOGY  3  N
(NEW) A laboratory course emphasizing principles of systematics and identification and the behavioral ecology of local vertebrate animals. Prerequisite: BIOL 152, BIOL 153 or consent of instructor.

DELETE COURSE

BIOL 665  BIOCHEMISTRY II  3  N

CHANGE: PREREQUISITE

BIOL 673  CELLULAR AND MOLECULAR NEUROBIOLOGY  3  N
(OLD) Mechanisms of neural function and development will be considered at the cellular and molecular levels. Synaptic mechanisms of learning and memory, modulation of transmitter release, and the molecular basis of neurodegenerative disorders will also be discussed. Prerequisite: Introduction to Neurobiology (BIOL 435), an upper level course in physiology (BIOL 646 or BIOL 647), or permission of instructor.

BIOL 673  CELLULAR AND MOLECULAR NEUROBIOLOGY  3  N
(NEW) Mechanisms of neural function and development are considered at the cellular and molecular levels. Synaptic mechanisms of learning and memory, modulation of transmitter release, and the molecular basis of neurodegenerative disorders are also discussed. Prerequisite: BIOL 435, BIOL 646, or permission of instructor.

CHANGE: PREREQUISITE

BIOL 688  THE MOLECULAR BIOLOGY OF CANCER  3  N
(OLD) The basic concepts of molecular biology are examined and used to probe the process by which a normal cell becomes a cancer cell. The course investigates DNA damage and repair, chemical carcinogenesis, gene cloning and manipulation, the control of gene expression in eukaryotes, tumor viruses, the roles of oncogenes and tumor suppressor genes in carcinogenesis, and cancer therapy. Prerequisite: BIOL 404 or BIOL 600, or consent of instructor.

BIOL 688  THE MOLECULAR BIOLOGY OF CANCER  3  N
(NEW) The basic concepts of molecular biology are examined and used to probe the process by which a normal cell becomes a cancer cell. The course investigates DNA damage and repair, chemical carcinogenesis, gene cloning and manipulation, the control of gene expression in eukaryotes, tumor viruses, the roles of oncogenes and tumor suppressor genes in carcinogenesis, and cancer therapy. Prerequisite: BIOL 350 and BIOL 600, or consent of instructor.
CHANGE: PREREQUISITE

**BIOL 690**  
**CONTROL MECHANISMS IN DEVELOPMENT 3 N**  
(OLD) Molecular aspects of nucleic acid dynamics; differential gene function and its biologic control; regulation of morphogenesis. Prerequisite: BIOL 404 and BIOL 416, or equivalent.

**BIOL 690**  
**CONTROL MECHANISMS IN DEVELOPMENT 3 N**  
(NEW) Molecular aspects of nucleic acid dynamics; differential gene function and its biologic control; regulation of morphogenesis. Prerequisite: BIOL 350 and BIOL 416, or equivalent, or consent of instructor.

**NEW COURSE**

**ECON 609**  
**SPORTS ECONOMICS 3 S**  
The course covers the microeconomics of the sports industry. Topics include analysis of teams, leagues, players, incomes, strategies, history, and government policy. Prerequisite: ECON 520 or permission of instructor.

**NEW COURSE**

**ENGL 492**  
**THE LONDON REVIEW 3 H**  
This class meets one day a week throughout the semester and includes a nine-day visit to London over the spring break period. Students spend the early part of the semester selecting special interests, researching places to visit and study, and exchanging information. After the trip, students compile and publish a journal entitled "The London Review", which is comprised of essays, photos, art work, and other reflections about their experience in London. Prerequisite: Admission to University Honors Program or permission of instructor.

CHANGE: COURSE DESCRIPTION

**ENGL 496**  
**INTERNSHIP 1-3 H**  
(OLD) Practical experience in the use of English skills (writing, editing, teaching) in supervised academic or professional settings for which the student does not receive pay. Credit hours will be graded on a satisfactory/unsatisfactory basis, according to the written recommendation provided by the supervisor to the coordinator. Prerequisite: Completion of three junior-senior courses in English and consent of coordinator.

**ENGL 496**  
**INTERNSHIP 1-3 H**  
(NEW) Practical experience in the use of English skills in supervised academic or professional settings. Credit hours are graded on a satisfactory/unsatisfactory basis, according to the written recommendation provided by the supervisor to the coordinator. Prerequisite: Completion of three junior-senior courses in English and consent of coordinator.

**NEW COURSE**

**HWC 110**  
**INTRODUCTION TO HUMANITIES 3 H**  
An introduction to the humanities as a division of learning and to interdisciplinary study in the humanities. Topics include the history and role of the humanities in a liberal education, perspectives and methods in the humanities, the humanities and human diversity, and interdisciplinary approaches to understanding and interpreting texts.
NEW COURSE

POLS 674 INTERNATIONAL ETHICS 3 H
This course reviews how philosophical perspectives elucidate the role ethics plays in foreign policy. It covers human rights doctrines, issues of economic and political justice, just war theory (jus ad bellum) and just conduct of war (jus en bello) and humanitarian intervention. Prerequisite: POLS 170 or POLS 171.

CHANGE: COURSE DESCRIPTION

PHSX 211 GENERAL PHYSICS I 1-4 N
(OLD) Mechanics and Thermodynamics. Three class periods and one laboratory period per week. Designed as a course commonly required of engineers and physical science majors. In special circumstances, permission to enroll in less than four hours credit may be obtained from the department. Students with credit in PHSX 114 can obtain only one hour of credit. Prerequisite: MATH 116 or MATH 121; courses in high school physics and/or chemistry are recommended.

PHSX 211 GENERAL PHYSICS I 1-4 N
(NEW) Introduction to classical mechanics and thermodynamics. Designed for students in engineering and physical science majors. In special circumstances, permission to enroll for fewer than four hours credit may be obtained from the department. Students with credit in PHSX 114 can obtain only one hour of credit. Prerequisite: MATH 116 or MATH 121; courses in high school physics and/or chemistry are recommended.

CHANGE: COURSE DESCRIPTION

PHSX 212 GENERAL PHYSICS II 1-4 N
(OLD) Electricity and magnetism. Three class periods and one laboratory period per week. A continuation of PHSX 211. In special circumstances, permission to enroll in less than four hours may be obtained from the department. Students with credit in PHSX 115 can obtain only one hour credit. Prerequisite: PHSX 211. Corequisite: MATH 122.

PHSX 212 GENERAL PHYSICS II 1-4 N
(NEW) Study of electricity and magnetism, waves and sound. In special circumstances, permission to enroll for fewer than four hours credit may be obtained from the department. Students with credit in PHSX 115 can obtain only one hour of credit. Prerequisite: PHSX 211; Corequisite: MATH 122.

CHANGE: DESCRIPTION

PHSX 213 GENERAL PHYSICS I, HONORS
(OLD) An honors section of PHSX 211. Prerequisite: MATH 121 and permission of instructor; courses in high school physics and/or chemistry are recommended. Credit for fewer than four hours requires permission of the department.

PHSX 213 GENERAL PHYSICS I, HONORS
(NEW) An honors section of PHSX 211. Credit for fewer than four hours requires permission of the department. Prerequisites: MATH 121 and permission of instructor. Recommended for students with a strong math background who are either in the University Honors Program or intending to major in a physical science. Courses in high school physics and chemistry are strongly recommended.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHSX 214</td>
<td>GENERAL PHYSICS II, HONORS</td>
<td>3</td>
<td>S</td>
<td>An honors section of PHSX 212. Prerequisite: PHSX 211. Corequisite: MATH 122, and membership in the University Honors Program, or consent of instructor or department. Credit for fewer than four hours requires permission of department.</td>
</tr>
<tr>
<td>PHSX 214</td>
<td>GENERAL PHYSICS II, HONORS</td>
<td>3</td>
<td>S</td>
<td>An honors section of PHSX 212. Credit for fewer than four hours requires permission of the department. Prerequisites: PHSX 211 or PHSX 213, and permission of instructor. Corequisite: MATH 122 Recommended for students with a strong math background who are either in the University Honors Program or intending to major in a physical science.</td>
</tr>
<tr>
<td>PSYC 299</td>
<td>CONCEPTUAL ISSUES IN PSYCHOLOGY</td>
<td>3</td>
<td>S</td>
<td>This course examines classic issues in psychology--free-will and determinism, nature and nurture, the mind-body problem, approaches to human action, cultural influences on psychological theories, the evolution of intellectual paradigms, and inductive and deductive approaches to social scientific research--from multiple perspectives within psychology and related social sciences. Prerequisite: PSYC 104 or equivalent.</td>
</tr>
<tr>
<td>REL 435</td>
<td>DEVELOPMENT OF ISLAMIC TRADITIONS</td>
<td>3</td>
<td>H</td>
<td>Origins of Islam, the prophet Mohammed, the Holy Koran, religious symbols and moral mandates, historical developments (Same as AAAS 320.)</td>
</tr>
<tr>
<td>REL 350</td>
<td>ISLAM</td>
<td>3</td>
<td>H</td>
<td>Islam's Origins, the prophet Mohammed, the Holy Koran, religious symbols and moral mandates, and historical developments. (Same as AAAS 349.)</td>
</tr>
<tr>
<td>REL 450</td>
<td>POPULAR CULTURE IN THE MUSLIM WORLD</td>
<td>3</td>
<td>H</td>
<td>A study of pop songs, television, comics, and other idioms of popular culture from different parts of the Muslim world, with attention to Muslims' sense of humor, tragedy, aesthetics, and pertinent issues of the day. (Same as AAAS 450.)</td>
</tr>
<tr>
<td>REL 552</td>
<td>CLASSICAL ISLAMIC LITERATURE</td>
<td>3</td>
<td>H</td>
<td>An examination of major developments in classical Islamic literature in the Middle East and beyond, with attention to the poetic and prose works (in translation) that emerged from them. (Same as AAAS 552.)</td>
</tr>
<tr>
<td>REL 650</td>
<td>SUFISM</td>
<td>3</td>
<td>H</td>
<td>A survey of developments in Sufi (Islamic Mystical) thought, poetry, and ritual throughout Muslim history and across the Muslim world. Prerequisite: AAAS 349/REL 350 or permission of instructor. (Same as AAAS 650.)</td>
</tr>
<tr>
<td>REL 657</td>
<td>GENDER IN ISLAM AND SOCIETY</td>
<td>3</td>
<td>H</td>
<td>An investigation of the relationship between Islam, and gender roles and status in religious texts (Quran and Hadith) and in societies across the Muslim world, past and present. Prerequisite: AAAS349/REL 350 or permission of instructor. (Same as AAAS 657.)</td>
</tr>
</tbody>
</table>
SOC 510  
**ELEMENTARY STATISTICS AND DATA ANALYSIS  3 S**  
(OLD) An introduction to descriptive and inferential statistics in sociological research. Alternative sampling procedures; the use of tables, measures of association, correlation, induction and inferential testing, significance testing and confidence intervals; nonparametric statistics; the logic of elaboration, causal inference, and multi-variate analysis. Introduction to electronic calculators, computer programs for data analysis (SPSS) and to interpretation of computer programs output. No prior familiarity with statistics, calculators, or computers assumed. Prerequisite: Junior, senior, or graduate standing required.

SOC 510  
**ELEMENTARY STATISTICS AND DATA ANALYSIS  3 S**  
(NEW) An introduction to social scientific data analysis, with an emphasis on descriptive and inferential statistics. Specific topics include sampling, measures of association and correlation, significance testing, the logic of causal inference, the use of computer programs for data analysis, multivariate analysis, and the critical evaluation of social science research findings. Prerequisite: SOC 104 or instructor permission.

SPLH 662  
**PRINCIPLES OF SPEECH SCIENCE  3 N**  
(OLD) Survey of the physiology of speech production, and the physics of sound. Emphasis upon methodologies in the laboratory study of normal speech. Prerequisite: SPLH 120, or concurrent enrollment in SPLH 120, or consent of instructor.

SPLH 662  
**PRINCIPLES OF SPEECH SCIENCE  3 N**  
(NEW) Survey of the physiology of speech production, and the physics of sound. Emphasis upon methodologies in the laboratory study of normal speech. Prerequisite: SPLH 120 and SPLH 320, or concurrent enrollment in SPLH 120 and SPLH 320, or consent of instructor.

SPLH 663  
**PRINCIPLES OF HEARING SCIENCE**  
(OLD) Concepts and principles relevant to the normal hearing process: gross anatomy, psychophysical methods, and basic subjective correlates of the auditory system. Prerequisites: SPLH 120, or consent of instructor.

SPLH 663  
**PRINCIPLES OF HEARING SCIENCE**  
(NEW) Concepts and principles relevant to the normal hearing process: gross anatomy, psychophysical methods, and basic subjective correlates of the auditory system. Prerequisites: SPLH 120, SPLH 320, or concurrent enrollment in SPLH 320, or consent of instructor.

TH&F 401  
**THEATRE PRACTICUM IV  1 U**  
(OLD) Involvement in theatre performance and/or production. One acting role in a University Theatre production or classroom project plus one crew assignment, or two crew assignments qualify for credit. May be repeated for credit. This course will be graded satisfactory/unsatisfactory. Prerequisite: TH&F 301.
TH&F 401  STAGE MANAGEMENT AND ASSISTANT DIRECTION 1 U
(NEW) Majors are assigned to stage manage or assistant direct a University Theatre production, or to take related workshops in stage management or assistant directing. May be repeated for credit. This course will be graded satisfactory/unsatisfactory.

B. DEGREE REQUIREMENTS

1. Non-Western Culture Status for:

   AAAS 349  ISLAM
   Islam's Origins, the prophet Muhammed, the Holy Koran, religious symbols and moral mandates, and historical developments. (SAME AS REL 350.)

   AAAS 450 POPULAR CULTURE IN THE MUSLIM WORLD
   A study of pop songs, television, comics, and other idioms of popular culture from different parts of the Muslim world, with attention to Muslims' sense of humor, tragedy, aesthetics, and pertinent issues of the day. (Same as REL 450.)

   AAAS 552 CLASSICAL ISLAMIC LITERATURES
   An examination of major developments in classical Islamic literature in the Middle East and beyond, with attention to the poetic and prose works (in translation) that emerged from them. (Same as REL 552.)

   AAAS 650  SUFISM
   A survey of developments in Sufi (Islamic Mystical) thought, poetry, and ritual throughout Muslim history and across the Muslim world. Prerequisite: AAAS 349/REL 350 or permission of instructor. (Same as REL 650.)

   AAAS 657 GENDER IN ISLAM AND SOCIETY
   An investigation of the relationship between Islam, and gender roles and status in religious texts (Quran and Hadith) and in societies across the Muslim world, past and present. Prerequisite: AAAS 349/REL 350 or permission of instructor. (Same as REL 657.)

2. Deletion of the BGS degree in Human Biology

   As part of an ongoing review of the Human Biology Program, the members of the Human Biology Committee unanimously recommend that the BGS major be deleted. Completing this major does not provide the depth of knowledge that is now considered appropriate for a major in the field of Human Biology. To serve our students and to ensure that they graduate with the background and specialized knowledge to compete successfully for jobs, we recommend that the BGS be eliminated. Updates to the Human Biology BA major will be forthcoming, but we consider this to be an essential and critical first step in the process of reviewing and updating the Human Biology degree programs.

C. REPORT OF ACTION

1. Changes to Major Requirements in Biological Sciences

   Because of the addition of BIOL 599, Senior Seminar in ______, each of the biology majors can now substitute this course for the current, more generic BIOL 420, Seminar in ______. This does not substantially modify the majors as a “senior seminar” is currently required of all biology degrees. The use of BIOL 599 simply formalizes this requirement as a separate course.
The degrees involved are: BA, Biology, BA, Biochemistry, BA, Microbiology, BA, Human Biology, BS, Biochemistry, BS, Microbiology, BS, Cell Biology, BS, Organismal Biology, BS, Ecology and Evolutionary Biology, BS, Genetics.

JUSTIFICATION: BIOL 599 is now available as a course option and it replaces the more generic BIOL 420, clarifying the difference between the generic seminar courses and the Senior Seminar course.

2. Changes to Major Requirements in Sociology

At present, the core requirements for bachelor’s degrees in sociology include SOC 104 *(Elements of Sociology)*, SOC 500 *(Sociological Theory)*, and *either* SOC 310 *(Research Methods)* or SOC 510 *(Elementary Statistics & Data Analysis)*.

We propose to require SOC 104, SOC 500, and *both* SOC 310 and SOC 510. And we propose, in a companion Curricular Change Approval Form, to lightly revise the course description of SOC 510 and to modify the course prerequisites for SOC 510 to accommodate the course’s projected new status as a requirement for an undergraduate sociology degree.

JUSTIFICATION: Research methods and statistics are both core elements of the undergraduate curriculum in sociology departments across the United States. Findings reported by the American Sociological Association show that most sociology departments in research universitites require undergraduate courses in both research methods and statistics. And we strongly prefer applicants to our own graduate program to have completed undergraduate courses in both statistics and research methods. So we propose to require both courses as well. This will enable us to live up to the professional norms embraced by our peer institutions, and to responsibly prepare our graduating majors to apply their sociological training either academically or professionally upon graduation.