**Ogden College of Science and Engineering**

**Office of the Dean**

**745-4449**

**REPORT TO THE UNIVERSITY CURRICULUM COMMITTEE**

Date: February 13, 2014

The Ogden College of Science and Engineering submits the following action items for consideration at the February 2014, UCC meeting:

1. New Business

|  |  |
| --- | --- |
| **Type of item** | **Description of Item & Contact Information** |
| Action | **Proposal to Make Multiple Revisions to a Course** BIOL 283, Introductory Biostatistics, 4 hrs.Contact: Michael Collyer, michael.collyer@wku.edu, x8765 |
| Action | **Proposal to Make Multiple Revisions to a Course** BIOL 315, Ecology, 4.5 hrs.Contact: Scott Grubbs, scott.grubbs@wku.edu, x5048 |
| Action | **Proposal to Make Multiple Revisions to a Course** BIOL 327, Genetics, 4 hrs.Contact: Scott Grubbs, scott.grubbs@wku.edu, x5048 |
| Action | **Proposal to Make Multiple Revisions to a Course** BIOL 430, Evolution, 3 hrs.Contact: Scott Grubbs, scott.grubbs@wku.edu, x5048 |
| Action | **Proposal to Create a New Course**BIOL 329, Genetics Laboratory, 1hr.Contact: Jarret Johnson, jarret.johnson@wku.edu, x6032 |
| Action | **Proposal to Create a New Course**BIOL 336, Food Microbiology, 3 hrs.Contact: Cangliang Shen, Cangliang.shen@wku.edu, x4440 |
| Action | **Proposal to Revise a Program**Ref. 525, Major in Biology, 48 hrs.Contact: Scott Grubbs, scott.grubbs@wku.edu, x5048 |
| Action | **Proposal to Revise a Program**Ref. 617, Major in Biology, 36 hrs.Contact: Scott Grubbs, scott.grubbs@wku.edu, x5048 |
| Action | **Proposal to Create a New Certificate Program**Food Science Program, 12 hrs. Contact: Ken Crawford, kenneth.crawford@wku.edu, x4449 |
| Action | **Proposal to Make Multiple Revisions to a Course**GEOG 210, Human Ecology, 3 hrs.Contact: Leslie North, leslie.north@wku.edu, x5982 |
| Action | **Proposal to Make Multiple Revisions to a Course**GEOG 280, Introduction to Environmental Science, 3 hrs. Contact: Leslie North, leslie.north@wku.edu, x5982 |
| Action | **Proposal to Make Multiple Revisions to a Course**GEOG 300, Geographic Research Methods, 3 hrs.Contact: Leslie North, leslie.north@wku.edu, x5982 |
| Action | **Proposal to Make Multiple Revisions to a Course**GEOG 452, Field Studies in Geography, 3 hrs.Contact: Leslie North, leslie.north@wku.edu, x5982 |
| Action | **Proposal to Make Multiple Revisions to a Course**GEOG 495, Supervised Practicum, 3 hrs.Contact: Leslie North, leslie.north@wku.edu, x5982 |
| Action | **Proposal to Make Multiple Revisions to a Course**GEOL 432, Crystallography, 4 hrs.Contact: Aaron Celestian, aaron.celestian@wku.edu, x4555 |
| Action | **Proposal to Discontinue Course Equivalencies**GEOG 280, Introduction to Environmental Science, 3 hrs. Contact: Leslie North, leslie.north@wku.edu, x5982  |
| Action | **Proposal to Revise Course Credit Hours**GEOG 391, Spatial Data Analysis and Interpretation, 3 hrs.Contact: Kevin Cary, kevin.cary@wku.edu, x4555 |
| Action | **Proposal to Revise a Program**Ref. 674, Major in Geography, 36 hrs.Contact: Leslie North, leslie.north@wku.edu, x5982 |
| Action | **Proposal to Revise a Program**Ref. 374, Minor Geography, 21 hrs. Contact: David Keeling, david.keeling@wku.edu , x4555 |
| Action | **Proposal to Revise a Program**Ref. 577, Major in Geology: Extended Major, 52 hrs. Contact: Aaron Celestian, aaron.celestian@wku.edu, x4555 |
| Action | **Proposal to Revise a Program**Ref. 578, Major in Meteorology, 49.5 hrs. Contact: Gregory Goodrich, gregory.goodrich@wku.edu, x5986 |
| Action | **Proposal to Create a New Course**MATH 240, Geometry in Art and Architecture, 3 hrs.Contact: Claus Ernst, claus.ernst@wku.edu, x6224 |
| Action | **Proposal to Make Multiple Revisions to a Course**PSYS 361, Psychological Tests and Measurements, 3 hrs. Contact: Dr. Reagan Brown, reagan.brown@wku.edu, x6939 |
| Action | **Proposal to Make Multiple Revisions to a Course**PSYS 411, Psychology of Sensation and Perception, 3 hrs.Contact: Dr. Farley Norman, farley.norman@wku.edu, x2094 |
| Action | **Proposal to Create a New Course**PSYS 433, Judgment and Decision Making, 3 hrs.Contact: Aaron Wichman, aaron.wichman@wku.edu, x2443 |
| Action | **Proposal to Create a New Course**PSYS 462, Neuroscience of Learning and Memory, 3 hrs.Contact: Sharon Mutter, sharon.mutter@wku.edu, x4389 |
| Action | **Proposal to Create a New Course**PSYS 465, Psychopharmacology, 3 hrs.Contact: Dr. Farley Norman, farley.norman@wku.edu, x2094 |
| Action | **Proposal to Revise a Program**Ref. 591, Major In Psychology, 52 hrs.Contact: Sharon Mutter, sharon.mutter@wku.edu, x4389 |

Proposal Date: 21 November 2013

**Ogden College of Science and Engineering**

**Department of Biology**

**Proposal to Make Multiple Revisions to a Course**

**(Action Item)**

Contact Person: Michael Collyer, michael.collyer@wku.edu, 745-8765

**1. Identification of course:**

* 1. Current course prefix (subject area) and number: BIOL 283
	2. Course title: Introductory Biostatistics

**2. Revise course title: NA**

* 1. Current course title: NA
	2. Proposed course title: NA
	3. Proposed abbreviated title: NA
	4. Rationale for revision of course title: NA

**3. Revise course number:**

* 1. Current course number: BIOL 283
	2. Proposed course number: BIOL 382
	3. Rationale for revision of course number: There are several reasons that warrant elevation to a 300-level course. First, the combination of the content taught and the evaluatory system used for student performance in the class is more indicative of an upper-division undergraduate course. Second, comparable introductory statistics courses in other WKU departments, accepted toward majors, start at the 300-level. With the exception of STAT 301 (a calculus-based statistics course), however, all other 300-level courses have less stringent MATH prerequisites than the current BIOL 283. Third, the majority (with some exceptions) of similar courses found at benchmark institutions are 300- or 400- level courses. Notable examples include at Florida Atlantic University (STA 3173, Introduction to Biostatistics), Indiana State University (BIO 485, Introduction to Biometry), and Middle Tennessee State University (Biol 4350, Biometry). Fourth, 300-level statistics courses at WKU are eligible to count towards an applied statistics minor at WKU, but 200-level courses are not eligible. For example, a Biology major wishing to pursue a statistics minor would have to evade a 200-level statistics course. Additionally, if the current BIOL 283 course were changed to BIOL 382, it might attract non-biology majors seeking a statistics minor. Fifth, the biology major requires 18 of the 36 semester hours in biology coursework at a 300-level or higher. Although the course topic is becoming increasingly important for biology majors (for example, the MCAT will begin testing students on biostatistics in 2015), the requirements of the major might currently preclude interested students from taking this course.

**4. Revise course prerequisites/corequisites/special requirements:**

4.1 Current prerequisites: BIOL 120-121, BIOL 122-123, and MATH 118

4.2 Proposed prerequisites: BIOL 120/121 and BIOL 122/123 with grades of "C" or higher or consent of instructor; MATH 117 (or equivalent or higher)

4.3 Rationale for revision of course prerequisites: Grades of “C” or higher are proposed as performance requirements for the Biology prerequisite series as a means of improving the chances of success for students pursuing a Major in Biology. These are the primary core courses that all Biology Majors students must take prior to enrolling in subsequent courses.

MATH 118 was a course that combined elements of MATH 116 (Algebra) and MATH 117 (Trigonometry). Currently, students must complete MATH 116 as a prerequisite for MATH 117. These two courses cover the same content as MATH 118. Therefore, a student who has completed MATH 117 has the same mathematics background as a student who has completed MATH 118, which is sufficient for this course.

4.4 Effect on completion of major/minor sequence: None

**5. Revise course catalog listing:**

* 1. Current course catalog listing: NA
	2. Proposed course catalog listing: NA
	3. Rationale for revision of course catalog listing: NA

**6. Revise course credit hours:**

* 1. Current course credit hours: 4
	2. Proposed course credit hours: 3
	3. Rationale for revision of course credit hours: The traditional format for this course, with 3 hours of lecture content and a 2-hour lab, isn’t appropriate nor applicable. There are several reasons that warrant separation of lecture and laboratory components of the current BIOL 283 into separate courses (a new course – BIOL 383, Introductory Biostatistics Laboratory will be proposed at a later date.) First, this course has currently adopted a flipped design where students are expected to prepare for class prior to a given day and the lecture is spent in a computer classroom with students performing statistical applications. The lab time is no longer needed since hands-on teaching is already applied within the 3-hour lecture block each week. Second, the MCAT exam will start testing students on biostatistics in 2015, which might increase the demand for biostatistics courses. By separating lecture and lab components, the Department of Biology will be in a better position to accommodate larger course populations (especially if the demand for labs is not as great). Third, a 3-hour 300-level stats course is likely more attractive to students pursuing the Applied Statistics minor because this minor requires six hours of elective 300-level statistics courses, in addition to the required STAT 330 (Introduction to Statistical Software), among others, making the current merged laboratory component apparently redundant. Fourth, separation of lecture and lab is consistent with general program revisions for Biology majors, which require students to take a minimum of three laboratory experience courses and one science process course (the proposed BIOL 383 will be geared to satisfying either a laboratory experience or science process course in the revised program.)

**7.** **Revise grade type:**

 7.1 Current grade type: NA

 7.2 Proposed grade type: NA

 7.3 Rationale for revision of grade type: NA

**8. Proposed term for implementation:** Fall 2014

**9. Dates of prior committee approvals:**

|  |  |
| --- | --- |
| Department of Biology | **January 24, 2014** |
| Ogden College Curriculum Committee  | February 6, 2014 |
| Undergraduate Curriculum Committee  |  |
| University Senate |  |

Proposal Date: 21 November 2013

**Ogden College of Science and Engineering**

**Department of Biology**

**Proposal to Make Multiple Revisions to a Course**

**(Action Item)**

Contact Person: Scott Grubbs, scott.grubbs@wku.edu, 270 745-5048

**1. Identification of course:**

* 1. Current course prefix (subject area) and number: BIOL 315
	2. Course title: Ecology

**2. Revise course title:**

* 1. Current course title: NA
	2. Proposed course title: NA
	3. Proposed abbreviated title: NA
	4. Rationale for revision of course title: NA

**3. Revise course number:**

* 1. Current course number: NA
	2. Proposed course number: NA
	3. Rationale for revision of course number: NA

**4. Revise course prerequisites/corequisites/special requirements:**

4.1 Current prerequisites: BIOL 222-223 or BIOL 224-225 or BIOL 226-227

4.2 Proposed prerequisites: BIOL 120/121 and BIOL 122/123 with grades of “C” or higher

4.3 Rationale for revision of course prerequisites: BIOL 120/121 and BIOL 122/123 are more appropriate as prerequisite courses since they most directly provide the foundation concepts needed for BIOL 315.

Grades of “C” or higher are proposed as performance requirements for the proposed prerequisite series as a means of improving the chances of success for students pursuing a Major in Biology. These are the primary core courses that all Biology Majors students must take prior to enrolling in subsequent courses.

4.4 Effect on completion of major/minor sequence: None

**5. Revise course catalog listing:**

* 1. Current course catalog listing: A study of the fundamental principles of ecology. Laboratory work includes research and computer techniques for analysis and synthesis. A field trip may be required.
	2. Proposed course catalog listing: A study of the fundamental principles of ecology.
	3. Rationale for revision of course catalog listing: The description of laboratory work needs removed because the lab component of this course is being deleted. We don’t anticipate field trips will be a regular part of this course.

**6. Revise course credit hours:**

* 1. Current course credit hours: 4.5
	2. Proposed course credit hours: 3
	3. Rationale for revision of course credit hours: The lab component of this course is being removed, predicating the need to reduce credit hours to three. From this point forward, BIOL 315 will be a lecture-only course meeting for 3 contact hours per week. A separate, stand-alone Ecology Laboratory course will subsequently be developed at a later date.

**7.** **Revise grade type:**

 7.1 Current grade type: NA

 7.2 Proposed grade type: NA

 7.3 Rationale for revision of grade type: NA

**8. Proposed term for implementation:** Fall 2014

**9. Dates of prior committee approvals:**

|  |  |
| --- | --- |
| Department of Biology | **November 22, 2013** |
| Ogden College Curriculum Committee  | February 6, 2014 |
| Undergraduate Curriculum Committee  |  |
| University Senate |  |

Proposal Date: 21 November 2013

**Ogden College of Science and Engineering**

**Department of Biology**

**Proposal to Make Multiple Revisions to a Course**

**(Action Item)**

Contact Person: Scott Grubbs, scott.grubbs@wku.edu, 270 745-5048

**1. Identification of course:**

* 1. Current course prefix (subject area) and number: BIOL 327
	2. Course title: Genetics

**2. Revise course title:**

* 1. Current course title: NA
	2. Proposed course title: NA
	3. Proposed abbreviated title: NA
	4. Rationale for revision of course title: NA

**3. Revise course number:**

* 1. Current course number: NA
	2. Proposed course number: NA
	3. Rationale for revision of course number: NA

**4. Revise course prerequisites/corequisites/special requirements:**

4.1 Current prerequisites: BIOL 120-121 and BIOL 122-123

4.2 Proposed prerequisites: BIOL 120/121 and BIOL 122/123 with grades of “C” or higher

4.3 Rationale for revision of course prerequisites: Grades of “C” or higher are proposed as performance requirements for the current prerequisite series as a means of improving the chances of success for students pursuing a Major in Biology. These are the primary core courses that all Biology Majors students must take prior to enrolling in subsequent courses.

4.4 Effect on completion of major/minor sequence: None

**5. Revise course catalog listing:**

* 1. Current course catalog listing: A study of the fundamental principles of heredity in eukaryotic organisms.
	2. Proposed course catalog listing: A study of the fundamental principles of heredity in eukaryotic organisms.
	3. Rationale for revision of course catalog listing: With the shifting of the lab component of this course to a new, stand-alone lab course, the course fee is no longer necessary.

**6. Revise course credit hours:**

* 1. Current course credit hours: 4
	2. Proposed course credit hours: 3
	3. Rationale for revision of course credit hours: The lab component of this course is being removed, predicating the need to reduce credit hours to three. From this point forward, BIOL 327 will be a lecture-only course meeting for 3 contact hours per week. A separate, stand-alone Genetics Laboratory is being simultaneously proposed as a new course.

**7.** **Revise grade type:**

 7.1 Current grade type: NA

 7.2 Proposed grade type: NA

 7.3 Rationale for revision of grade type: NA

**8. Proposed term for implementation:** Fall 2014

**9. Dates of prior committee approvals:**

|  |  |
| --- | --- |
| Department of Biology | **November 22, 2013** |
| Ogden College Curriculum Committee  | **February 6, 2014** |
| Professional Education Council | **February 12, 2014** |
| Undergraduate Curriculum Committee  |  |
| University Senate |  |

Proposal Date: 21 November 2013

**Ogden College of Science and Engineering**

**Department of Biology**

**Proposal to Make Multiple Revisions to a Course**

**(Action Item)**

Contact Person: Scott Grubbs, scott.grubbs@wku.edu, 270 745-5048

**1. Identification of course:**

* 1. Current course prefix (subject area) and number: BIOL 430
	2. Course title: Evolution

**2. Revise course title:**

* 1. Current course title: NA
	2. Proposed course title: NA
	3. Proposed abbreviated title: NA
	4. Rationale for revision of course title: NA

**3. Revise course number:**

* 1. Current course number: BIOL 430
	2. Proposed course number: BIOL 316
	3. Rationale for revision of course number: For several years BIOL 430 was taught as a capstone course with an enrollment typically small enough to permit a dynamic class environment that regularly incorporated discussions during lecture. The evaluatory system employed for this course once included multiple papers and extensive, essay-style exams. With a sharp increase in the number of Biology majors that occurred last decade, demand for this course likewise increased yet this has predicated a need for how students are evaluated. The content covered has remained the same through the years.

**4. Revise course prerequisites/corequisites/special requirements:**

4.1 Current prerequisites: BIOL 319 and BIOL 322 or BIOL 327

4.2 Proposed prerequisites: BIOL 120/121 and BIOL 122/123 with grades of “C” or higher

4.3 Rationale for revision of course prerequisites: BIOL 120/121 and BIOL 122/123 are more appropriate as prerequisite courses since they most directly provide the foundation concepts needed for BIOL 316. Additionally, all Biology majors must take either this course or BIOL 315. The latter course is being revised with the same freshman-level, majors Biology sequence as prerequisites. The proposed prerequisite series would be identical for the two courses.

Grades of “C” or higher are proposed as performance requirements for the proposed prerequisite series as a means of improving the chances of success for students pursuing a Major in Biology. These are the primary core courses that all Biology Majors students must take prior to enrolling in subsequent courses.

4.4 Effect on completion of major/minor sequence: None

**5. Revise course catalog listing:**

* 1. Current course catalog listing: NA
	2. Proposed course catalog listing: NA
	3. Rationale for revision of course catalog listing: NA

**6. Revise course credit hours:**

* 1. Current course credit hours: NA
	2. Proposed course credit hours: NA
	3. Rationale for revision of course credit hours: NA

**7.** **Revise grade type:**

 7.1 Current grade type: NA

 7.2 Proposed grade type: NA

 7.3 Rationale for revision of grade type: NA

**8. Proposed term for implementation:** Fall 2014

**9. Dates of prior committee approvals:**

|  |  |
| --- | --- |
| Department of Biology | **November 22, 2013** |
| Ogden College Curriculum Committee  | February 6, 2014 |
| Undergraduate Curriculum Committee  |  |
| University Senate |  |

Proposal Date: 1 December 2013

**Ogden College of Science and Engineering**

**Department of Biology**

**Proposal to Create a New Course**

 **(Action Item)**

Contact Person: Jarrett Johnson, jarrett.johnson@wku.edu, 745-6032

**1. Identification of proposed course:**

* 1. Course prefix (subject area) and number: BIOL 329
	2. Course title: Genetics Laboratory
	3. Abbreviated course title: Genetics Laboratory
	4. Credit hours: 1
	5. Grade type: Standard letter grade
	6. Corequisites: BIOL 319 or BIOL 327
	7. Course description: A laboratory-based study of genetics, focusing on heredity, molecular and developmental genetics, genomics, and population genetics. Modern laboratory techniques are emphasized. Course fee

**2. Rationale:**

* 1. Reason for developing the proposed course: This course already exists as the embedded laboratory component in BIOL 327 (Genetics). Technically, this is not a new course proposal but rather a separation of laboratory from the lecture component. There is a parallel proposal that is removing the laboratory from the lecture. Hence, the lecture and laboratory components will be stand-alone courses.

The rationale for decoupling this lab course from the BIOL327 lecture is to increase flexibility in at least three ways. First, students that need to retake Genetics to improve their grade would not need to take both the lecture and lab, if they performed poorly only in one area. Second, the lab techniques that are emphasized and taught align equally well with the stand-alone lab course BIOL 322 (Introduction to Cellular and Molecular Biology Lab). The topics taught in the two lab courses are distinct, but each emphasizes many of the same lab practices and techniques. Currently, BIOL 322 is a corequisite of BIOL 319 (Introduction to Cellular and Molecular Biology). A stand-alone Genetics Lab can serve as an appropriate corequisite of BIOL 319, and similarly, BIOL 322 is similarly an appropriate corequisite for a lecture-only BIOL 327. Third, the BIOL327 lecture would be free to exceed 72 students (the current maximum due to limited lab space), and while we have not recently had much demand to increase the size of the lecture, this may occur in the future. Please note that there are separate proposal modifying the corequisites for BIOL 319 and BIOL 322.

* 1. Projected enrollment in the proposed course: 18 per lab section, with 3–4 lab sections offered each semester. This is identical to how we have managed enrollment in the lab component of Genetics for several years. By decoupling the lab from lecture we anticipate that enrollment may decrease slightly, yet most students will still enroll in the lab during the semester they take 327.
	2. Relationship of the proposed course to courses now offered by the department:

The content of the proposed course would overlap greatly with the content of BIOL327 but would differ markedly since BIOL 329 is a hands-on lab. There are no other Genetics lab courses taught by the Biology Department.

* 1. Relationship of the proposed course to courses offered in other departments: Biology is only department across WKU that teach genetics courses.
	2. Relationship of the proposed course to courses offered in other institutions: Genetics course lacking a lab component is very common. Among WKU Benchmark institutions, only five universities (Ball State, Central Michigan, James Madison, Northern Illinois, and Southern Mississippi) have the lab combined with the lecture as one integrated course. Four benchmarks (East Carolina, Florida Atlantic, Towson, and South Alabama) lack a lab altogether. The remaining nine benchmarks (Appalachian State, Bowling Green State, East Tennessee State, Illinois State, Indiana State, Middle Tennessee State, Ohio, North Carolina-Charlotte, and North Carolina-Greensboro) have a separate, stand-alone lab course.

**3. Discussion of proposed course:**

* 1. Schedule type: B
	2. Learning outcomes:

*Upon completion of this course, students will be able to:*

* Perform the necessary calculations to prepare aqueous solutions from dry or liquid raw materials
* Explain the connection between genotypes and phenotypes, and the principles of inheritance
* Understand the importance of polymerase chain reaction (PCR) in molecular genetics and implement the experimental protocols for performing PCR
* Ascertain genotypes from size-separated DNA fragments
* Use the Hardy-Weinberg Equilibrium equation to determine if a gene is evolving
* Describe the benefits of model organisms and explain the life cycle of the fruit fly
* Explain a variety of recombinant genetic strategies for understanding gene expression patterns
* Understand the importance of regulatory regions of DNA in controlling the expression of genes
	1. Content outline:

Unit 1: Lab introduction

Lab 1 – Lab safety, pipetting, and making solutions

Unit 2: Investigation of human gene TAS2R38

Lab 2 – Measuring student phenotypes and extracting DNA

Lab 3 – Performing polymerase chain reaction and using bioinformatics tools

Lab 4 – Using agarose gel electrophoresis and restriction digests to detect genotypes

Lab 5 – Evaluation of class data using population genetic techniques

Unit 3: Introduction to the fruit fly

Lab 6 – Observing adult mutations and practicing larval dissection

Lab 7 – Making polytene chromosome squashes to observe chromatin variation

Lab 8 – Using GAL4 UAS enhancer traps to study gene expression in the wing disc

Unit 4: Using E. coli

Lab 9 – Performing pGLO transformation to understand gene expression

Lab 10 – Extracting plasmid DNA from transformed cells

* 1. Student expectations and requirements: Student performance will be based on participation, laboratory worksheets, lab notebooks, quizzes, and exams.
	2. Tentative texts and course materials: There is no laboratory manual to purchase. Handouts describing each of the laboratory exercises will be uploaded to Blackboard as the semester progresses.

**4. Resources:**

* 1. Library resources: Adequate.
	2. Computer resources: Not required for this course.

**5. Budget implications:**

* 1. Proposed method of staffing: Dr. Johnson and Dr. Ajay Srivastava have been teaching the Genetics lab component currently embedded in BIOL 327, in addition to the lecture, since they were hired in 2010. They will continue to contribute to the teaching of the new laboratory course.
	2. Special equipment needed: None
	3. Expendable materials needed: None
	4. Laboratory materials needed: None

**6. Proposed term for implementation: Fall 2014**

**7. Dates of prior committee approvals**

|  |  |
| --- | --- |
| Department of Biology | **November 22, 2013** |
| Ogden College Curriculum Committee  | February 6, 2014 |
| Undergraduate Curriculum Committee  |  |
| University Senate |  |

**Attachment: Bibliography, Library Resources Form**, **Course Inventory Form**

Proposal Date: 08/31/2013

**Ogden College of Science and Engineering**

**Department of Biology**

**Proposal to Create a New Course**

**(Action Item)**

Contact Person: Cangliang Shen, cangliang.shen@wku.edu, 745-4440

**1. Identification of proposed course:**

* 1. Course prefix (subject area) and number: BIOL 336
	2. Course title: Food Microbiology
	3. Abbreviated course title: Food Microbiology
	4. Credit hours: 3
	5. Grade type: Standard letter grade
	6. Prerequisites: BIOL 207/208, BIOL 226/227, or consent of instructor
	7. Course description: A comprehensive understanding of food microbiology, including foodborne pathogenic bacteria, beneficial bacteria, microbial impact on food processing, control of microorganisms in food, and food regulations. This course may include off-campus travels to food processing companies or government laboratories.

**2. Rationale:**

* 1. Reason for developing the proposed course: This course is designed to allow students, especially those in biology, agriculture, chemistry, and public health disciplines, to understand the interaction between microorganisms and food processing. This course is designed as part of the Food Science Certification with the potential of developing a food science minor and/or major. Students involved in the food science certification program are required to take this class as one of their core classes. Non-food science certification program students would also benefit from this class for development of a career in microbiology, for example working in CDC or USDA-ARS as a microbiologist.
	2. Projected enrollment in the proposed course: 20-24 students expected based on the current enrollment of BIOL 226/227 Microbial Biology and Diversity.
	3. Relationship of the proposed course to courses now offered by the department:

Current microbiology courses of BIOL 226/227 or BIOL 207/208 provide the prerequisite microbial knowledge for students enrolling into this class. This class will focus on the interaction between microorganisms related to food processing, rather than presenting basic microbiology information.

* 1. Relationship of the proposed course to courses offered in other departments: This course complements one new course for the newly-proposed Food Science Certification Program (CHEM 307: Food Chemistry). There is no overlap between these two classes.
	2. Relationship of the proposed course to courses offered in other institutions: Only one benchmark institution, University of Southern Mississippi, offers a Food Microbiology Course (Bio 488).

**3. Discussion of proposed course:**

* 1. Schedule type: L
	2. Learning outcomes: Understanding of the role of microorganisms in food processing and preservation, focusing namely on:
* Relation of microorganisms to food spoilage
* Foodborne illness and intoxication
* Food processing and quality control
* Role of microorganisms in health promotion
* Federal food processing regulations.
	1. Content outline:

1) The Trajectory of Food Microbiology

2) Microbial Growth, Survival, and Death in Foods

3) Spores and Their Significance

4) Detection and Enumeration of Microbes in Food

5) Rapid and Automated Microbial Methods

6) Indicator Microorganisms and Microbiological Criteria

7) Foodborne Pathogens

8) Lactic Acid Bacteria and their Fermentative Products

9) Spoilage Organisms

10) Molds

11) Viruses and Prions

12) Antimicrobial Chemicals

13) Biological Based Preservation and Probiotic Bacteria

14) Physical Methods of Food Preservation

15) Industrial Strategies of Ensuring Safe Food

* 1. Student expectations and requirements: Student performance will be based on lecture exams and oral presentation.
	2. Tentative texts and course materials: Required text book: Food Microbiology; An Introduction; Thomas J. Montville, Karl R. Matthews, and Kalmia E. Knile. 2012. 3rd ed. ASM Press, Washington DC. ISBN 978-1-55581-636-0 (Hardcover); ISBN 978-1-55581-720-6 (e-book). Additional materials will be provided in class.

**4. Resources:**

* 1. Library resources: Adequate. Required text book “Food Microbiology; An Introduction; Thomas J. Montville, Karl R. Matthews, and Kalmia E. Knile. 2012. 3rd edition” is available in WKU library.
	2. Computer resources: No specific computer resources are required for this course. Required text book “Food Microbiology; An Introduction; Thomas J. Montville, Karl R. Matthews, and Kalmia E. Knile. 2012. 3rd ed.” e-book is available to be purchased through ASM Press.

**5. Budget implications:**

* 1. Proposed method of staffing: Dr. Cangliang Shen was hired in 2012 in the Department of Biology as a Food Microbiologist. This course will be a part of his regular teaching rotation and will be a part of the Food Science Certified Program curriculum in Ogden College.
	2. Special equipment needed: None
	3. Expendable materials needed: None
	4. Laboratory materials needed: None

**6. Proposed term for implementation: Fall 2014**

**7. Dates of prior committee approvals**

|  |  |
| --- | --- |
| Department of Biology | **January 24, 2014** |
| Ogden College Curriculum Committee  | February 6, 2014 |
| Undergraduate Curriculum Committee  |  |
| University Senate |  |

**Attachment: Bibliography, Library Resources Form**, **Course Inventory Form**

Proposal Date: 14 December 2013

**Ogden College of Science and Engineering**

**Department of Biology**

**Proposal to Revise A Program**

**(Action Item)**

Contact Person: Scott Grubbs, scott.grubbs@wku.edu, 270 745-5048

**1. Identification of program:**

* 1. Current program reference number: 525
	2. Current program title: Major in Biology
	3. Credit hours: 48

**2. Identification of the proposed program changes:**

* Removal of BIOL 322 (Introduction to Cellular and Molecular Biology Lab) as the sole corequisite of BIOL 319 (Introduction to Cellular and Molecular Biology)
* Partitioning the integrated lab component of BIOL 327 (Genetics) into a stand-alone lab course, BIOL 329 (Genetics Lab)
* BIOL 322 or BIOL 329 can be taken as the corequisite lab course in combination with either BIOL 319 of BIOL 327
* Removal of the integrated lab component of BIOL 315 (Ecology), thereby reducing the credit hours for this course from 4.5 to 3
* Changing BIOL 430 (Evolution) to BIOL 316 to better reflect the evaluatory system used in this course
* Require a minimum of five upper division laboratory experience courses

**3. Detailed program description:**

|  |  |
| --- | --- |
| **Current program**Required coursework (8 hrs)BIOL 120/121: Biological Concepts: Cells, Metabolism, and Genetics (4)BIOL 122/123: Biological Concepts: Evolution, Diversity & Ecology (4)Restricted elective coursework (11 ~~or 12.5~~ hrs)BIOL 222/223: Plant Biology and Diversity (4)orBIOL 224/225: Animal Biology and Diversity (4)orBIOL 226/227: Microbial Biology and Diversity (4)BIOL 319/322: Introduction to Cellular and Molecular Biology (~~4~~)orBIOL 327: Genetics (4)BIOL 315: Ecology (~~4.5~~)orBIOL ~~430~~: Evolution (3)Elective coursework* In consultation with their advisor, students select majors-level coursework to obtain a minimum 48 credits total, provided that at least 24 hours total are upper division courses.

Supporting coursework* MATH 116 and 117 or MATH 118 or higher
* PHYS 231/232 or PHYS 255/256
* CHEM 120/121, and
* Two courses from the following list: AGRO 350 and AGRO 452 or AGRO 454 or AGRO 455/456 or AGRO 457/458, BIOL 283, CHEM 222/223, CHEM 314 or CHEM 340/341, CHEM 330, CIS 243, CIS 226 or CS 226 or CS 146, GEOG 316, GEOG 317, GEOG 328, GEOG 417, MATH 136, MATH 137, MATH 142, MATH 305, MATH 307, PHYS 332/233 or PHYS 265/266, SOCL 302.
* Students may count up to 6 credit hours of a combination of BIOL 369 and/or 399, and up to 4 credit hours of BIOL 485 toward this major.
 | **Proposed program**Required coursework (8 hrs)BIOL 120/121: Biological Concepts: Cells, Metabolism, and Genetics (4)BIOL 122/123: Biological Concepts: Evolution, Diversity & Ecology (4)Restricted elective coursework (**11 hrs**)BIOL 222/223: Plant Biology and Diversity (4)orBIOL 224/225: Animal Biology and Diversity (4)orBIOL 226/227: Microbial Biology and Diversity (4)**BIOL 319: Introduction to Cellular and Molecular Biology (3)**or**BIOL 327: Genetics (3)****BIOL 322: Introduction to Cellular and Molecular Biology Lab (1)**or**BIOL 329: Genetics Lab (1)****BIOL 315: Ecology (3)**or**BIOL 316: Evolution (3)****Laboratory experience courses (choose five)****BIOL 312, BIOL 321, BIOL 322, BIOL 324, BIOL 325, BIOL 326, BIOL 328, BIOL 329, BIOL 331, BIOL 348, BIOL 350, BIOL 400, BIOL 404, BIOL 405, BIOL 412, BIOL 447, BIOL 450, BIOL 456, BIOL 457, BIOL 458, BIOL 460, BIOL 470, BIOL 472, BIOL 485, BIOL 496, BIOL 497**Elective coursework* In consultation with their advisor, students select majors-level coursework to obtain a minimum 48 credits total, provided that at least 24 hours total are upper division courses.

Supporting coursework* MATH 116 and 117 or MATH 118 or higher
* PHYS 231/232 or PHYS 255/256
* CHEM 120/121, and
* Two courses from the following list: AGRO 350 and AGRO 452 or AGRO 454 or AGRO 455/456 or AGRO 457/458, BIOL 283, CHEM 222/223, CHEM 314 or CHEM 340/341, CHEM 330, CIS 243, CIS 226 or CS 226 or CS 146, GEOG 316, GEOG 317, GEOG 328, GEOG 417, MATH 136, MATH 137, MATH 142, MATH 305, MATH 307, PHYS 332/233 or PHYS 265/266, SOCL 302.
* Students may count up to 6 credit hours of a combination of BIOL 369 and/or 399, and up to 4 credit hours of BIOL 485 toward this major.
 |

**4. Rationale for the proposed program change:**

* The addition of BIOL 329 (Genetics Laboratory) as a corequisite alternative to BIOL 322 (Introduction to Molecular and Cell Biology Laboratory) for both BIOL 319 (Introduction to Cellular and Molecular Biology) or BIOL 327 (Genetics) reflects the philosophical similarities in how the two lab courses are taught. Both courses emphasize the development of good lab practices. The integrated lab component of BIOL 327 is being removed, predicating the need to reduce credit hours to three.
* The integrated lab component of BIOL 315 (Ecology) is being removed, predicating the need to reduce credit hours to three.
* BIOL 430 (Evolution) is being reduced to a newly-proposed course number (BIOL 316) to reflect a modest change in the evaluatory system employed for this course that has coincided with an increase in demand and enrollment.
* A minimum of five, upper-division laboratory experiences are proposed as required, emphasizing the importance of developing solid benchtop skills and good laboratory practices. Learning the science of Biology requires an integration of laboratory skills/practices in addition to concepts taught mainly through lecture-based coursework.

**5. Proposed term for implementation:** Fall 2014

**6. Dates of prior committee approvals:**

|  |  |
| --- | --- |
| Department of Biology | January 24, 2014 |
| Ogden College Curriculum Committee  | February 6, 2014 |
| Professional Education Council | February 12, 2014 |
| Undergraduate Curriculum Committee  |  |
| University Senate |  |

Proposal Date: 14 December 2013

**Ogden College of Science and Engineering**

**Department of Biology**

**Proposal to Revise A Program**

**(Action Item)**

Contact Person: Scott Grubbs, scott.grubbs@wku.edu, 270 745-5048

**1. Identification of program:**

* 1. Current program reference number: 617
	2. Current program title: Major in Biology
	3. Credit hours: 36

**2. Identification of the proposed program changes:**

* Removal of BIOL 322 (Introduction to Cellular and Molecular Biology Lab) as the sole corequisite of BIOL 319 (Introduction to Cellular and Molecular Biology)
* Partitioning the integrated lab component of BIOL 327 (Genetics) into a stand-alone lab course, BIOL 329 (Genetics Lab)
* BIOL 322 or BIOL 329 can be taken as the corequisite lab course in combination with either BIOL 319 of BIOL 327
* Removal of the integrated lab component of BIOL 315 (Ecology), thereby reducing the credit hours for this course from 4.5 to 3
* Changing BIOL 430 (Evolution) to BIOL 316 to better reflect the evaluatory system used in this course
* Require a minimum of three upper division laboratory experience courses

**3. Detailed program description:**

|  |  |
| --- | --- |
| **Current program**Required coursework (8 hrs)BIOL 120/121: Biological Concepts: Cells, Metabolism, and Genetics (4)BIOL 122/123: Biological Concepts: Evolution, Diversity & Ecology (4)Restricted elective coursework (11 ~~or 12.5~~ hrs)BIOL 222/223: Plant Biology and Diversity (4)orBIOL 224/225: Animal Biology and Diversity (4)orBIOL 226/227: Microbial Biology and Diversity (4)BIOL 319/322: Introduction to Cellular and Molecular Biology (4)orBIOL 327: Genetics (~~4~~)BIOL 315: Ecology (~~4.5~~)orBIOL ~~430~~: Evolution (3)Elective coursework* In consultation with their advisor, students select majors-level coursework to obtain a minimum 36 credits total, provided that at least 18 hours total are upper division courses.

Supporting coursework* MATH 116 and 117 or MATH 118 or higher
* PHYS 231/232 or PHYS 255/256
* CHEM 120/121, and
* Two courses from the following list: AGRO 350 and AGRO 452 or AGRO 454 or AGRO 455/456 or AGRO 457/458, BIOL 283, CHEM 222/223, CHEM 314 or CHEM 340/341, CHEM 330, CIS 243, CIS 226 or CS 226 or CS 146, GEOG 316, GEOG 317, GEOG 328, GEOG 417, MATH 136, MATH 137, MATH 142, MATH 305, MATH 307, PHYS 332/233 or PHYS 265/266, SOCL 302.
* Students may count up to 3 credit hours of a combination of BIOL 369 and/or 399, and up to 4 credit hours of BIOL 485 toward this major.
 | **Proposed program**Required coursework (8 hrs)BIOL 120/121: Biological Concepts: Cells, Metabolism, and Genetics (4)BIOL 122/123: Biological Concepts: Evolution, Diversity & Ecology (4)Restricted elective coursework (**11 hrs**)BIOL 222/223: Plant Biology and Diversity (4)orBIOL 224/225: Animal Biology and Diversity (4)orBIOL 226/227: Microbial Biology and Diversity (4)**BIOL 319: Introduction to Cellular and Molecular Biology (3)**or**BIOL 327: Genetics (3)****BIOL 322: Introduction to Cellular and Molecular Biology Lab (1)**or**BIOL 329: Genetics Lab (1)****BIOL 315: Ecology (3)**or**BIOL 316: Evolution (3)****Laboratory experience courses (choose three)****BIOL 312, BIOL 321, BIOL 322, BIOL 324, BIOL 325, BIOL 326, BIOL 328, BIOL 329, BIOL 331, BIOL 348, BIOL 350, BIOL 400, BIOL 404, BIOL 405, BIOL 412, BIOL 447, BIOL 450, BIOL 456, BIOL 457, BIOL 458, BIOL 460, BIOL 470, BIOL 472, BIOL 485, BIOL 496, BIOL 497**Elective coursework* In consultation with their advisor, students select majors-level coursework to obtain a minimum 36 credits total, provided that at least 18 hours total are upper division courses.

Supporting coursework* MATH 116 and 117 or MATH 118 or higher
* PHYS 231/232 or PHYS 255/256
* CHEM 120/121, and
* Two courses from the following list: AGRO 350 and AGRO 452 or AGRO 454 or AGRO 455/456 or AGRO 457/458, BIOL 283, CHEM 222/223, CHEM 314 or CHEM 340/341, CHEM 330, CIS 243, CIS 226 or CS 226 or CS 146, GEOG 316, GEOG 317, GEOG 328, GEOG 417, MATH 136, MATH 137, MATH 142, MATH 305, MATH 307, PHYS 332/233 or PHYS 265/266, SOCL 302.
* Students may count up to 3 credit hours of a combination of BIOL 369 and/or 399, and up to 4 credit hours of BIOL 485 toward this major.
 |

**4. Rationale for the proposed program change:**

* The addition of BIOL 329 (Genetics Laboratory) as a corequisite alternative to BIOL 322 (Introduction to Molecular and Cell Biology Laboratory) for both BIOL 319 (Introduction to Cellular and Molecular Biology) or BIOL 327 (Genetics) reflects the philosophical similarities in how the two lab courses are taught. Both courses emphasize the development of good lab practices. The integrated lab component of BIOL 327 is being removed, predicating the need to reduce credit hours to three.
* The integrated lab component of BIOL 315 (Ecology) is being removed, predicating the need to reduce credit hours to three.
* BIOL 430 (Evolution) is being reduced to a newly-proposed course number (BIOL 316) to reflect a modest change in the evaluatory system employed for this course that has coincided with an increase in demand and enrollment.
* A minimum of three, upper-division laboratory experiences are proposed as required, emphasizing the importance of developing solid benchtop skills and good laboratory practices. Learning the science of Biology requires an integration of laboratory skills/practices in addition to concepts taught mainly through lecture-based coursework.

**5. Proposed term for implementation:** Fall 2014

**6. Dates of prior committee approvals:**

|  |  |
| --- | --- |
| Department of Biology | January 24, 2014 |
| Ogden College Curriculum Committee  | February 6, 2014 |
| Professional Education Council | February 12, 2014 |
| Undergraduate Curriculum Committee  |  |
| University Senate |  |

Proposal Date: 8/15/13

**Ogden College of Science & Engineering**

**Proposal to Create a New Certificate Program**

**(Action Item)**

Contact Person: Ken Crawford, kenneth.crawford@wku.edu, 745-4449

**1. Identification of program:**

* 1. Program title: Food Science Certificate
	2. Required hours in program: 12
	3. Special information: Interdisciplinary program, resides in the office of the Dean of Ogden College
	4. Catalog description: The certificate in Food Science (reference number xxxx) is designed for a student seeking a career in the food industry. The certificate requires 12 semester hours with 6 hours required as BIOL 336 and CHEM 306 and 6 hours of elective courses from the following list of courses: AGEC 360, AGEC 468, AGRI 101, AGRI 315, AGRI 493, AGRO 110, AGRO 311, AGRO 320, AMS 301, AMS 303, AMS 352, AMS 395, ANSC 140, ANSC 141, ANSC 340, BIOL 470, HMD 151, HMD 152, HMD 211, HMD 251, or a course approved by an advisor.

**2. Objectives of the proposed certificate program:** The objectives of the certificate program are to provide students with a background in biology, chemistry, agriculture, nutrition or dietetics with enhanced credentials related to food science in order to assist them to gain employment and advancement in the food industry.

**3. Rationale:**

* 1. Reason for developing the proposed certificate program: In 2012, a recognized food cluster in Ogden College was established by hiring new faculty members in Agriculture, Biology, and Chemistry in 2012 to supplement existing expertise in food science and processing in the Departments of Agriculture and Architecture and Manufacturing Science. The Food Industry is a growing economic sector in Kentucky, particularly in south-central Kentucky. This proposed certificate program is the first step in an interdisciplinary curricular effort in Ogden College to build student interest and infrastructure in Food Science that will lead to a minor and a major in Food Science.
	2. Relationship of the proposed certificate program to other programs now offered by the department: Food Processing and Technology
	3. Relationship of the proposed certificate program to certificate programs offered in other departments: None
	4. Projected enrollment in the proposed certificate program: 5-10
	5. Similar certificate programs offered elsewhere in Kentucky and in other states (including programs at benchmark institutions): There are no Food Science certificate programs at any of the other seven public universities in Kentucky, or at WKU’s 18 benchmarks. The University of Kentucky has a Food Science major and a minor. No other Kentucky schools have such a program. MTSU has a Food Science major and minor and is the only benchmark to have a Food Science Program.
	6. Relationship of the proposed certificate program to the university mission and objectives: The proposed food science certificate serves the university mission and objectives and prepares graduates to be “productive, engaged, and socially responsible” by encouraging students to think critically across traditional scientific disciplines and to consider the ethics and socioeconomic inequalities of a safe and nutritious source of food. The food science program has a core focus on enhancing students’ understanding of food production, food processing, food safety as well as the technical and analytical skills that are integral to providing innovative solutions to problems providing safe and nutritious food to the world’s growing population. The certificate program will help prepare students for employment in a wide variety of food related fields within the Commonwealth at the local and state levels, as well as the federal and international level within food production/ processing, governmental regulatory agencies, research institutions and non-profit agencies.

**4. Curriculum:** The certificate requires 12 semester hours with 6 hours required BIOL 344 (Food Microbiology), and CHEM 306 (Food Chemistry) and 6 hours of elective courses from the following list of courses: AGEC 360, AGEC 468, AGRI 101, AGRI 315, AGRI 493, AGRO 110, AGRO 311, AGRO 320, AMS 301, AMS 303, AMS 352, AMS 381, ANSC 140, ANSC 141, ANSC 340, BIOL 470, HMD 151, HMD 152, HMD 211, HMD 251, or a course approved by the advisor.

**5. Budget implications:** With the establishment of a recognized food cluster in Ogden College by hiring new faculty members in Agriculture, Biology, and Chemistry in 2012 as well as existing expertise in Agriculture and Architecture and Manufacturing Science, all required faculty expertise is currently available. Moreover, it was expected that the faculty in the food cluster would create courses in Food Chemistry and Food Microbiology to support student interest in Food Science. These courses are also electives in Chemistry and Biology and will serve as entry points for the Food Certificate. These courses will be offered annually as part of the regular faculty schedule. No additional resources are required.

**6. Proposed term for implementation:** Spring 2014

**7. Dates of prior committee approvals:**

Ogden College Dean’s Office \_n/a\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Ogden College Curriculum Committee \_\_2/6/14\_\_\_\_\_\_\_\_\_\_\_\_

 Undergraduate Curriculum Committee \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 University Senate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Proposal Date: 12/13/2013

**Ogden College of Science and Engineering**

**Department of Geography and Geology**

**Proposal to Make Multiple Revisions to a Course**

**(Action Item)**

Contact Person: Leslie North, leslie.north@wku.edu, 5-5982

**1. Identification of course:**

* 1. Current course prefix (subject area) and number: GEOG 210
	2. Course title: Human Ecology

**2. Revise course title:**

* 1. Current course title: Human Ecology
	2. Proposed course title: Environment and Ecological Policy
	3. Proposed abbreviated title: Environment Ecological Policy
	4. Rationale for revision of course title: The proposed course title better reflects the course content, recognizes more specifically the policy implications, and distinguishes it from courses taught in the Biology program.

**3. Revise course catalog listing:**

* 1. Current course catalog listing: A course designed to examine the human elements as

 a functional variable within an ecosystem through the study of culture groups and

 mutual interrelationships with their immediate natural and social environment.

* 1. Proposed course catalog listing: A survey of the geography, history, and current

 conditions of environment and ecological policy development and decision-making,

 particularly in the U.S., with an examination of the human element as a functional

 variable within the natural environment.

 3.3 Rationale for revision of course catalog listing: The title change and revised catalog

 listing aim to explain more correctly the nature and content of the course and its sequence

 in the Geography program. The course serves as a prerequisite for GEOG 487

 Environmental Law and Policy and provides a basic knowledge of environmental and

 ecological management and the role humans play in these processes that is important for other courses in the program.

**4. Proposed term for implementation: Fall 2014**

**5. Dates of prior committee approvals:**

Department of Geography and Geology 12/13/2013

 Ogden College Curriculum Committee \_\_\_\_\_\_\_\_\_\_\_\_2/6/14\_\_\_\_\_

 University Curriculum Committee \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 University Senate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Proposal Date: 12/13/2013

**Ogden College of Science and Engineering**

**Department of Geography and Geology**

**Proposal to Make Multiple Revisions to a Course**

**(Action Item)**

Contact Person: Leslie North, leslie.north@wku.edu, 5-5982

**1. Identification of course:**

* 1. Current course prefix (subject area) and number: GEOG 280
	2. Course title: Introduction to Environmental Science

**2. Revise course title:**

* 1. Current course title: Introduction to Environmental Science
	2. Proposed course title: Environmental Science and Sustainability
	3. Proposed abbreviated title: Environment Sci Sustainability
	4. Rationale for revision of course title: This title more accurately describes the content and distinguishes the course from other environmental science classes being taught at the university.

**3. Revise course catalog listing:**

3.1 Current course catalog listing: An introductory course devoted to the study of environmental issues. A general understanding of application of science to solution of contemporary environmental problems. Equivalent to AGRI 280, BIOL 280, ENV 280, and PH 280.

* 1. Proposed course catalog listing: A general understanding of geoscience

 applications in solving contemporary environmental problems. Lab component

 provides practical experiences associated with the theories outlined in the course

 content. Course fee required.

* 1. Rationale for revision of course catalog listing: This course listing more

 accurately describes the content and distinguishes the course from other

 environmental science classes being taught at WKU.

**4. Revise course credit hours:**

* 1. Current course credit hours: 3
	2. Proposed course credit hours: 4
	3. Rationale for revision of course credit hours: Course content and objectives will

 remain the same. However, due to technological advances and changes in the field

 of sustainability, the issues have become more complex and require more hands-

 on time with the students. Therefore a lab component has been added to allow

 hands-on activities outside of the traditional lecture experience that we have

 provided for our students. This change is warranted based on feedback that we

 have received from our graduates and other experts in the field. A four-credit-

 hour course reflects other environmental studies programs at similar

 institutions.

**5 Proposed term for implementation:** Fall 2014

**6. Dates of prior committee approvals:**

|  |  |
| --- | --- |
| Department of Geography and Geology | **12/13/2013** |
| Ogden College Curriculum Committee  | **2/6/2014** |
| WKU Colonnade CommitteeUndergraduate Curriculum Committee  | **\_Advised 2/6/2014\_\_\_\_\_\_\_\_\_** |
| University Senate |  |

Proposal Date: 12/13/2013

**Ogden College of Science and Engineering**

**Department of Geography and Geology**

**Proposal to Make Multiple Course Revisions**

**(Action Item)**

Contact Person: Leslie North, leslie.north@wku.edu, 5-5982

1. **Identification of course**:

1.1 Current course prefix (subject area) and number: GEOG 300

1.2 Course title: Geographic Research Methods

2. **Revise course title**:

2.1 Current course title: Geographic Research Methods

2.2 Proposed course title: Writing in the Geosciences

2.3 Proposed abbreviated title: Writing in the Geosciences

2.4 Rationale for revision of course title: The revisedtitle more closely aligns with

 the goal of the WKU Colonnade program and Geography program revisions. The

 Department will proposes this course as equivalent to ENG 300 in the

 Foundations (Writing in the Disciplines) category of the Colonnade program. It is

 a required course for Geography, Meteorology, and GIS majors.

**3. Revise course prerequisites:**

3.1 Current prerequisites: GEOG 100 or GEOL 100 or GEOL 111, and GEOG 110;

 or Instructor’s permission.

3.2 Proposed prerequisites: GEOG 103 or GEOL 103, and GEOG 110

3.3 Rationale for revision of course prerequisites: The course number of GEOG/

 GEOL 100 has changed to GEOG/GEOL 103, GEOL 111 is no longer an

 appropriate prerequisite, and instructor’s permission is no longer required to take

 this course as it is being proposed as an equivalent to ENG 300 Writing in the

 Disciplines for the Colonnade program.

3.4 Effect on completion of major/minor sequence: None

4. **Revise course catalog listing**:

4.1 Current course catalog listing: An examination of the field of geography as an

 academic discipline. The course content will include a review of various

 philosophies of the field as well as geographic research, analysis, and writing

 application.

4.2 Proposed course catalog listing: Students conduct investigations into writing,

 reading, and research conventions in the geosciences and receive advanced

 instruction in planning, drafting, arranging, revising, and editing geoscience-

 specific essays and research projects.

4.3 Rationale for revision of course catalog listing: This course listing more

 accurately describes the goal of the course and harmonizes it with the Colonnade

 goals established for writing-in-the-discipline courses.

**5. Proposed term for implementation: Fall 2014**

**6. Dates of prior committee approvals:**

Department of Geography and Geology 12/13/2013

 Ogden College Curriculum Committee \_\_\_\_\_\_\_\_\_\_\_\_2/6/14\_\_\_\_

University Curriculum Committee \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 University Senate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Proposal Date: 12/13/2013

**Ogden College of Science and Engineering**

**Department of Geography and Geology**

**Proposal to Make Multiple Revisions to a Course**

**(Action Item)**

Contact Person: Leslie North, leslie.north@wku.edu, 5-4555

**1. Identification of course:**

* 1. Current course prefix (subject area) and number: GEOG 452
	2. Course title: Field Studies in Geography

**2. Revise course title:**

* 1. Current course title: Field Studies in Geography
	2. Proposed course title: Geoscience Field Experiences
	3. Proposed abbreviated title: Geoscience Field Experiences
	4. Rationale for revision of course title: The revised title better reflects the diverse nature of the course experiences, with geography, meteorology, GIS, and geology students participating in a variety of field-based experiences, such as Study Away, Study Abroad, Field Camp, and supervised research experiences in local or international settings.

**3. Revise course prerequisites:**

3.1 Current prerequisites: Permission of the Instructor

3.2 Proposed prerequisites: Junior Standing OR Instructor’s Permission

3.3 Rationale for revision of course prerequisites: Students ideally should have completed all

 foundational courses in the geography, geology, meteorology or GIS major before

 enrolling in this course. Non-geoscience majors require permission of the instructor.

* 1. Effect on completion of major/minor sequence: None

**4. Revise course catalog listing:**

4.1Current course catalog listing: Field methods are emphasized in problems, which are

 assigned. Field work is required.

4.2 Proposed course catalog listing: Field techniques and research experiences are

 emphasized in a variety of settings, including locally, at Study Away and Study Abroad

 destinations, field camps, and other national or international settings. A course fee is

 required.

* 1. Rationale for revision of course catalog listing: The revised listing better explains the

 nature of the course and allows for a number of local, national, and international field

 research experiences.

**5. Revise course credit hours:**

* 1. Current course credit hours: 3
	2. Proposed course credit hours: 3-6
	3. Rationale for revision of course credit hours: The course can be repeated for credit

 when the locale or field experience destination changes, or the course can be taken for 6 hours in one semester when appropriate, such as a summer field camp.

**6. Proposed term for implementation: 201430**

**7. Dates of prior committee approvals:**

Department of Geography and Geology \_\_\_\_12/13/2013\_\_\_\_\_\_\_\_

 Ogden College Curriculum Committee \_\_\_\_\_2/6/14\_\_\_\_\_\_\_\_\_\_\_\_

 Undergraduate Curriculum Committee \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 University Senate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Proposal Date: 12/13/2013

**Ogden College of Science and Engineering**

**Department of Geography and Geology**

**Proposal to Make Multiple Course Revisions**

**(Action Item)**

Contact Person: Leslie North, leslie.north@wku.edu, 5-5982

1. **Identification of proposed course:**
	1. Course prefix (subject area) and number: GEOG 495
	2. Course title: Supervised Practicum
	3. Credit Hours: 3 hours

**2**. **Revise course title**:

2.1 Current course title: Supervised Practicum

2.2 Proposed course title: **Research Practicum or Internship**

2.3 Proposed abbreviated title: **Research Practicum or Intern**

2.4 Rationale for revision of course title: The new title is clearer so that students understand

 that the Practicum requirement can be met through multiple means, such as participating

 in guided research or an internship. The broadening of the ways that students can meet

 this requirement will help to encourage students to participate in both research and

 internships.

**3. Revise course catalog listing:**

* 1. Current course catalog listing: Supervised experience in a cooperating

 government, community, or private concern. May be repeated for a maximum of

 12 credit hours. A maximum of 9 credit hours of practicum can be earned in

 minor programs.

* 1. Proposed course catalog listing: Supervised research or internship with faculty,

 government, community, or private concerns. May be repeated for a maximum of

 12 credit hours in the major, with a maximum of 6 credit hours permitted in minor

 programs.

* 1. Rationale for revision of course catalog listing: The revision more accurately

 represents the course options and provides for collaborative research opportunities

 with faculty. The maximum permitted hours in a minor program are reduced from

 9 to 6 to require a broader exposure to the various geoscience sub-disciplines.

**4. Proposed term for implementation: Fall 2014**

**5. Dates of prior committee approvals:**

Department of Geography and Geology **12/13/2013\_\_\_\_\_\_\_\_\_**

Ogden College Curriculum Committee \_\_\_\_\_\_\_2/6/2014\_\_\_\_\_\_\_\_\_\_\_\_

University Curriculum Committee \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

University Senate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Proposal Date: 12/13/2013

**Ogden College of Science and Engineering**

**Department of Geography and Geology**

**Proposal to Make Multiple Revisions to a Course**

**(Action Item)**

Contact Person: Aaron Celestian, aaron.celestian@wku.edu, 5-4555

**1. Identification of course:**

* 1. Current course prefix (subject area) and number: GEOL 432
	2. Course title: Crystallography

**2. Revise course title:**

* 1. Current course title: Crystallography
	2. Proposed course title: **Diffraction and Spectroscopy**
	3. Proposed abbreviated title: **Diffraction and Spectroscopy**
	4. Rationale for revision of course title: This title change more closely reflects the course content and content delivery. Course catalog description will be modified to account for the change in title

**3. Revise course prerequisites:**

3.1 Current prerequisite: GEOL 330 Or CHEM 222 Or PHYS 266

3.2 Proposed prerequisites: **GEOL 325 OR** GEOL 330 OR CHEM 222 OR PHYS 266

3.3 Rationale for revision of course prerequisites:

This prerequisite change will no longer disallow Geology B.A. students from taking this upper-division geology elective.

3.4 Effect on completion of major/minor sequence:

This change will provide more upper-division geology elective choices to the students in the Geology B.A. major.

**4. Revise course catalog listing:**

* 1. Current course catalog listing: An introduction to the theory and experimental practices

 of modern crystallography. Focuses on the study of symmetry and crystal structures and

 their physical and chemical properties in environmentally important Earth materials.

 Laboratory fee required.

* 1. Proposed course catalog listing: Theory and experimental practices of modern analytical

 techniques for the analysis of crystal structures. Focuses on the study of crystallography,

 crystal chemistry, and their physical and chemical properties. Laboratory fee required.

* 1. Rationale for revision of course catalog listing: The course title change to “Diffraction

 and Spectroscopy” better aligns with the bulk of the current course content. Since the

 original course proposal in 2007, WKU has significantly enhanced its materials

 characterization capabilities, and these new tools allow for a comprehensive and hands-on

 teaching approach that could not be previously accomplished.

**5. Proposed term for implementation: Fall 2014**

**6. Dates of prior committee approvals:**

|  |  |
| --- | --- |
| Department of Geography and Geology | **12/13/2013** |
| Ogden College Curriculum Committee  | **2/6/14** |
| Undergraduate Curriculum Committee  |  |
| University Senate |  |

Proposal Date: 12/13/2013

**Ogden College of Science and Engineering**

**Department of Geography and Geology**

**Proposal to Discontinue Course Equivalencies**

**(Action Item)**

Contact Person: Leslie North, leslie.north@wku.edu, 5-5982

1. **Identification of the equivalent courses:**

1.1 Course prefixes (subject areas) and numbers: AGRI 280, ENV 280, PH 280. BIOL 280

1.2 Course Title: Introduction to Environmental Science

1. **Rational for discontinuing equivalency:** The GEOG 280 course has been revamped to

include a lab component, increase the credit hours, and to clarify the sustainability component of the course. The revised course is now substantially different from the previously equivalent courses, it is now a foundations course in the revised Geography Extended Major, and it is sufficiently different in content and thematic approach to warrant discontinuance of the equivalency.

1. **Effect of discontinuing equivalency on programs or other departments, if known:** None

known, although very few students historically requested a non-GEOG 280 course for credit in the Geography major.

 **4. Proposed new course number (for main campus or “C” course discontinued equivalencies only). N/A**

 **5. Proposed term for implementation: Fall 2014**

 **6. Dates of prior committee approvals:**

|  |  |
| --- | --- |
| Department of Geography and Geology  | **12/13/2013** |
| Ogden College Curriculum Committee  | **2/6/2014** |
| Undergraduate Curriculum Committee  |  |
| University Senate |  |

Proposal Date: August 29, 2013

**Ogden College of Science and Engineering**

**Department of Geography and Geology**

**Proposal to Revise Course Credit Hours**

**(Action Item)**

Contact Person: Kevin Cary, Kevin.cary@wku.edu, 745-4555

**1. Identification of course:**

* 1. Current course prefix (subject area) and number: GEOG 391
	2. Course title: Spatial Data Analysis and Interpretation
	3. Credit hours: 3

**2. Proposed course credit hours:** 4

**3. Rationale for the revision of course credit hours:** Changing to 4 credit hours will reflect the work load currently required of students in the course. Spatial Data Analysis draws from large data sets in the geosciences and the field generally has seen annual advances in the base software products. While the course outline remains the same from year-to-year, the increasing capabilities and complexity of the software and the datasets mean that, in recent years, more lab time has been required of students to achieve mastery of spatial data analysis skills.

**4. Proposed term for implementation:** Fall 2014

**5. Dates of prior committee approvals:**

Department of Geography and Geology \_\_\_\_8/21/2013\_\_\_\_\_\_\_

 Ogden College Curriculum Committee \_\_\_\_\_2/6/2014\_\_\_\_\_\_\_\_

 Undergraduate Curriculum Committee \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 University Senate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Attachment: Course Inventory Form**

Proposal Date: December 13, 2013

**Ogden College of Science and Engineering**

**Department of Geography and Geology**

**Proposal to Revise a Program**

**(Action Item)**

Contact Person: Leslie North, leslie.north@wku.edu, 5-5982

**1. Identification of program:**

* 1. Current program reference number: 674
	2. Current program title: Geography
	3. Credit hours: 36

**2. Identification of the proposed program changes:**

* 1. Change program title to Geography and Environmental Studies (Extended Major)
	2. Consolidate existing program concentrations (Land, Weather, Climate; Environmental Planning and Resource Management; Planning and GIS; Cultural Geography; Honors Geography; and Karst Geoscience) into two concentrations: 1) Cultural Geography and 2) Environmental Science
	3. Add two options to the Cultural Geography concentration: 1) Cultural Geography, and 2)

Tourism and Development

* 1. Add two options to the Environmental Science concentration: 1) Environment and Climate

Geoscience, 2) Karst Geoscience and Water Resources

* 1. Increase total number of program hours to 52
	2. Remove minor program requirement to fit in a 120-hour WKU undergraduate program with the increased total number of program hours
	3. Reflect new or changed courses in the program options.

**3. Detailed program description:**

|  |  |
| --- | --- |
| Karst Geoscience (GRKG)■ Foundation Requirements 13 hoursGEOG 100 or GEOL 102  or GEOL 111 Physical Geo. (3)GEOG 110 World Regional Geog. (3)GEOG 280 Environmental Science (3) GEOG 475 Mammoth Cave Karst (3)  (Summer Field Course)GEOG 499 Professional Development (1)■ Thematic Requirements 9-10 hoursGEOG or GEOL 310 Hydrology (3) ORGEOG 459 Physical Hydrology (3)GEOG 461 Karst Environments (3) GEOG 420 Geomorphology (4) ORGEOG 475 Mammoth Cave Karst (3)  (Summer Field Course)■ Technique Requirements 10 hoursGEOG 300 Research (3)GEOG 316 Foundations GIS (4)GEOG 391 Data Analysis (3) ■ Approved Electives 3-4 hoursGEOG 208 Floods and Droughts (1)GEOG 209 Natural Disasters (1)GEOG 317 GIS (4)GEOG 414 Remote Sensing (4)GEOG 417 GIS Analysis (3)GEOG 419 GIS Programming (3)GEOG 444 Environmental Ethics (3)GEOG 452 Field Methods (3)GEOG 455 Global Env. Change (3)GEOG 471 Resource Management (3)GEOG 474 Env. Planning (3)GEOG 487 Env. Law (3)GEOL 415 Env. Geology (3)GEOL 445 Aqueous Geochemistry (3)Program Total 36 hoursAdditional requirements: MATH 136, MATH 183, CHEM 120, and BIOL 120 OR PHYS 201 | **Deleted and Merged into new Environmental Science Concentration** |
| Environmental Planning and Resource Management (GRES)■ Foundation Requirements 13 hoursGEOG 100 or GEOL 102 Physical (3)GEOG 110 World Regional Geog. (3)GEOG 280 Environment (3)GEOG 475 or 495 Practicum or Research (3) GEOG 499 Professional Development (1)■ Thematic Requirements 9 hoursGEOG 328 Biogeography (3)GEOG 471 Natural Resources (3)GEOG 474 Env. Planning (3)■ Technique Requirements 10 hoursGEOG 300 Research (3)GEOG 316 Foundations GIS (4)GEOG 391 Data Analysis (3) ■ General Electives 4 hoursGEOG 208, 209, 310, 317, 350, 380, 414, 417, 419, 444, 452, 455, 459, 461, 487, GEOL 415Program Total 36 hoursAdditional requirements: MATH 116 and MATH 183, and one Ethics course: PHIL 320 or GEOG 444 | **Deleted and Merged into new Environmental Science Concentration** |
| Land, Weather, and Climate (GRLC)■ Foundation Requirements 13 hoursGEOG 100 or GEOL 102 or GEOL 111 Physical/Earth (3)GEOG 110 World Regional Geog. (3)GEOG 121 Meteorology (3) GEOG 475 or 495 Practicum or Research (3) GEOG 499 Professional Development (1)■ Thematic Requirements 7 hoursGEOG 322 Global Climate Systems (4)GEOG 424 or 426Weather (3)■ Technique Requirements 10 hoursGEOG 300 Research (3)GEOG 316 Foundations GIS (4)GEOG 391 Data Analysis (3) ■ General Electives 6 hoursGEOG 122, 222, 310, 325, 328, 414, 420, 424 or 426, 482, 455, 459, 461, 471, GEOL 311, 325Program Total 36 hoursAdditional Requirements: MATH 116, MATH 183**,** and PHY 201 | **Deleted and Merged into new Environmental Science Concentration** |
| Planning and GIS (GRPG)■ Foundation Requirements 13 hoursGEOG 100 or GEOL 102 Physical (3)GEOG 110 World Regional Geog. (3)GEOG 240 Planning (3) GEOG 475 or 495 Practicum or Research (3) GEOG 499 Professional Development (1)**■** Thematic Requirements 10 hoursGEOG 317 GIS (4)GEOG 474 Env. Planning (3)GEOG 484 Advanced Plan (3)■ Technique Requirements 10 hoursGEOG 300 Research (3)GEOG 316 Foundations GIS (4)GEOG 391 Data Analysis (3) **■** General Electives 3 hoursGEOG 350, 360, 414, 416, 417, 419, 423, 451, 477, 480, 487, 488, 497Program Total 36 hoursAdditional Requirements: MATH 116, MATH 183, AMS 163, CIS/CS 226 or CS 230 | **Deleted and Merged into new Environmental Science and Cultural Geography Concentrations** |
| Cultural Geography (GRCU)■ Foundation Requirements 14 hoursGEOG 100 or GEOL 102 Physical (3)GEOG 110 World Regional Geog. (3)GEOG 330 Intro to Cultural (3) GEOG 430 Topics in Cultural (3) GEOG 475 or 495 Practicum or Research (1) GEOG 499 Professional Development (1)■ Regional Requirements 6 hoursChoose two courses from:GEOG 200 Latin America (3)GEOG 360 North America (3)GEOG 451 Kentucky (3)GEOG 454 Middle America (3)GEOG 462 South America (3)GEOG 464 Europe (3)GEOG 465 Asia (3)GEOG 466 Africa (3)GEOG 467 Middle East (3)■ Thematic Requirements 6 hoursChoose two courses from:GEOG 350 Economic (3)GEOG 378 Food & Culture (3)GEOG 480 Urban (3)GEOG 481 Tourism (3)■ Technique Requirements 10 hoursGEOG 300 Research (3)GEOG 316 Foundations GIS (4)GEOG 391 Data Analysis (3) Program Total 36 hoursAdditional requirements: MATH 116 (Algebra) and MATH 183 (Statistics) | Cultural Geography**Cultural Geography Option (GRCU)**■ **Required Courses 31 hours****GEOG 103 Our Dynamic Earth\* (3)****GEOG 110 World Regional Geography\* (3)** **GEOG 300 Writing in the Geosciences\* (3)****GEOG 316 Fundamentals of GIS (4)****GEOG 317 GIS (4)****GEOG 330 Intro Cultural Geography (3)** **GEOG 391 Spatial Data Analysis (4)****GEOG 430 Topics Cultural Geography (3)** **GEOG 495 Research Practicum/Intern (3)****GEOG 499 Professional Development (1)**■ **Elective Courses 21 hours****Select from any GEOG or METR 2xx – 4xx courses, with your advisor, (examples include 200\*, 344, 350, 360, 471, 474, 481, 487, etc.) to meet the 52 unduplicated hours required. At least 26 program hours must be at the upper division level.** Program Total: **52 hours****Tourism and Development Option (GRTD)**■ **Required Courses 31 hours****GEOG 103 Our Dynamic Earth\* (3)****GEOG 110 World Regional Geography\* (3)** **GEOG 300 Writing in the Geosciences\* (3)****GEOG 316 Fundamentals of GIS (4)****GEOG 317 GIS (4)****GEOG 330 Intro Cultural Geography (3)** **GEOG 391 Spatial Data Analysis (4)****GEOG 481 Tourism Geography (3)** **GEOG 495 Research Practicum/Intern (3)****GEOG 499 Professional Development (1)**■ **Elective Courses 21 hours****Select from any GEOG or METR 2xx – 4xx courses, with your advisor, (examples include 200\*, 344, 350, 360, 378\*, 471, 474, 481, 487, etc.) to meet the 52 unduplicated hours required****At least 26 program hours must be at the upper division level.** Program Total: **52 hours**Additional requirements **for both options** **not included in the 52 hours**: MATH 116\* (Algebra) and MATH 183\* (Statistics)**\* Denotes a WKU Colonnade Course** |
|   | **NEW CONCENTRATION****Environmental Science****Environment and Climate Geoscience Option (GREC)**■ **Required Courses 35 hours****GEOG 103 Our Dynamic Earth\* (3)****GEOG 110 World Regional Geography\* (3)** **GEOG 210 Env & Ecological Policy (3)****GEOG 280 Env Sci & Sustainability\* (4)****GEOG 300 Writing in the Geosciences\* (3)****GEOG 316 Fundamentals of GIS (4)****GEOG 317 GIS (4)****GEOG 391 Spatial Data Analysis (4)****GEOG 455 Global Environ Change (3)****GEOG 495 Research Practicum/Intern (3)****GEOG 499 Professional Development (1)**■ **Elective Courses 17 hours****Select from any GEOG or METR 2xx – 4xx courses, with your advisor, (examples include 226\*, 322, 328, 344, 414, 427, 459, 471, 474, 487, etc.) to meet the 52 unduplicated hours required. At least 26 program hours must be at the upper division level.** Program Total: **52 hours**Additional requirements **not included in the 52 hours**: MATH 116\* (Algebra) and MATH 183\* (Statistics)**Karst Geoscience and Water Resources Option (GRKW)**■ **Required Courses 35 hours****GEOG 103 Our Dynamic Earth\* (3)****GEOG 110 World Regional Geography\* (3)** **GEOG 280 Env. Sci. & Sustainability\* (4)****GEOG 300 Writing in the Geosciences\* (3)****GEOG 310 Hydrology (3)****GEOG 316 Fundamentals of GIS (4)****GEOG 317 GIS (4)****GEOG 391 Spatial Data Analysis (4)****GEOG 461 Karst Environments (3)****GEOG 495 Research Practicum/Intern (3)****GEOG 499 Professional Development (1)**■ **Elective Courses 17 hours****Select from any GEOG or METR 2xx – 4xx courses, with your advisor, (examples include 226\*, 322, 328, 344, 414, 427, 459, 471, 474, 487, etc.) to meet the 52 unduplicated hours required. At least 26 program hours must be at the upper division level.** Program Total: **52 hours****Additional requirements** **not included in the 52 hours**: **MATH 136, MATH 183\*, CHEM 120, and PHYS 201 OR BIOL 120.****\* Denotes a WKU Colonnade Course** |
| Geography Honors (GRHN)* Program Requirements 30 hours

GEOG 100 (Honors), 110 (Honors), 300, 316, 391, HONS 300, HONS 301, HEEC courses (10 hours), 499* Program Electives 6 hours

HONS 403 Thesis for 6 hours, or 475 or 495* Program Total 36 hours

Additional requirements: MATH 116, MATH 183, and one Ethics course: PHIL 320 or GEOG 444 | **Deleted****Note: Students can earn Honors in the Geography and Environmental Studies Program by earning a 3.2 GPA or higher both in the major and cumulatively at WKU.**  |

**4. Rationale for the proposed program changes:**

This proposed change reflects an evolution of the existing program to meet the demands of current and future majors and to meet a growing need in the market for environmental studies. The title change (2.1) provides better marketing for majors, improved job prospects for environmental jobs requiring a specific degree, and better captures the expertise of a large subset of our faculty and the courses in the program. Revised program options (2.3) within the two concentrations (2.2.) also reflect this change to focus on areas within human and physical geography, and environmental science, which better fit the expertise of the faculty and the demands of program majors. Over the past decade, the Department has added new faculty that have brought an expanded intellectual and skill base to the existing Geography program, it has acquired new instrumentation and technical facilities such as GIS, and the program overall is now much more student-research and student-retention focused. These proposed program changes are needed to complement those departmental changes. The ultimate goal of the Geography Program is to educate students more effectively and to help them become more marketable for private industry, government, and academic positions.

The proposed changes also reflect greater flexibility, and increase rigor, for students to select elective courses that fit their interest and help better meet their future professional and academic goals. The field of geography and environmental studies is very broad, and a single program centered on fixed requirements and minimized electives cannot encompass all aspects of the science within 120 hours. In addition to these proposed changes, the Department also plans to develop a JUMP B.S./M.S. program aimed at positioning the Geography and Environmental Studies program more competitively among benchmark and regional universities. The proposed program changes in the existing B.S. degree are a critical step toward this effort.

**5. Proposed term for implementation and special provisions (if applicable):** Fall 2014

**6. Dates of prior committee approvals:**

Department of Geography and Geology \_\_\_\_\_\_\_12/13/2013\_\_\_\_

 Ogden Curriculum Committee \_\_\_\_2/6/14\_\_\_\_\_\_\_\_\_\_\_

 Undergraduate Curriculum Committee \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 University Senate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Proposal Date: November 8, 2013

**Ogden College of Science and Engineering**

**Department of Geography and Geology**

**Proposal to Revise a Program**

**(Action Item)**

Contact Person: David keeling, david.keeling@wku.edu, 5-4555

**1. Identification of program:**

* 1. Current program reference number: 374
	2. Current program title: Minor in Geography
	3. Credit hours: 21

**2. Identification of the proposed program changes:**

2.1 Reduce required program hours to 18

2.2 Change structure of the program to require 6 hours of preparatory coursework and 12

 hours of advanced coursework.

2.3 Delete techniques course requirement and delete GEOG 330 from the list of required

 courses.

2.4 Change course number of GEOG 100 to GEOG 103 and accept either GEOG

 or GEOL 103 as a required course.

**3. Detailed program description:**

|  |  |
| --- | --- |
| **Existing Program** | **Revised Program** |
| The Minor in Geography (reference number 374) requires a minimum of 21 semester hours.Required courses are: GEOG 100, 110, 330One Techniques course selected from:GEOG 300, 316, 317, 319, 417, 419, and 452Nine hours of upper-division electives chosen in consultation with your advisor. | The Minor in Geography (reference number 374) requires a minimum of ~~21~~ **18** semester hours.Required courses are: **GEOG or GEOL** ~~100~~, **103** GEOG 110, ~~330~~~~Technique course~~-~~Nine~~ **Twelve** hours of upper-division **GEOG** electives chosen in consultation with your advisor. |

**4. Rationale for the proposed program change:**

 With a wide variety of course options available to students with diverse interests and major

 backgrounds, it is easier for advisors to build a program around individual student interests. For

 example, journalism or broadcasting majors do not necessarily need the type of techniques

 courses currently required for the Minor. The revised program offers greater flexibility to match

 students’ needs. The number and title of GEOG 100 has been changed to GEOG 103 *Our*

 *Dynamic Planet* for the new Colonnade program and is now cross-listed with GEOL 103.

**5. Proposed term for implementation and special provisions (if applicable):**

 Fall 2014

**6. Dates of prior committee approvals:**

|  |  |
| --- | --- |
| Department of Geography and Geology | **12/13/2013** |
| Ogden College Curriculum Committee  | **2/6/14** |
| Undergraduate Curriculum Committee  |  |
| University Senate |  |

Proposal Date: 12/13/2013

**Ogden College of Science and Engineering**

**Department of Geography and Geology**

**Proposal to Revise a Program**

**(Action Item)**

Contact Person: Aaron Celestian (aaron.celestian@wku.edu) 5-5977

**1. Identification of program:**

* 1. Current program reference number: 577
	2. Current program title: Geology: Extended Major
	3. Credit hours: 52

**2. Identification of the proposed program changes:**

* Change program title to Geology Extended Major
* Reduce total number of hours outside the major to fit in a 120-hour WKU undergraduate program
* Remove field camp as a fixed requirement. It is now elective, or it can be used towards the major in place of GEOL 380 plus a Field Course combination.
* Movd introductory biology requirement to program electives.
* Move GEOG 391 (Spatial Data Analysis) to elective course category. GEOG 391 has a prerequisite of MATH 183 (Statistics), which is not required for the geology degree.
* Add a new option for graduation, Geology B.S. Extended Major with Honors. A student can achieve this if a set of minimum requirements are met (12 additional hours in Geology electives and a GPA of ≥3.25)
* Add a Physics alternative class. Now students have a choice between two physics classes. This increases scheduling flexibility and can accommodate varying student interests.
* Add new requirement: GEOL 399 (1 hour required and up to 3 hours can be applied to the program) of research experiences. GEOL 399 is an existing course.
* New course associated with this proposal: GEOG 452 – Geoscience Field Experiences (3-6 hours) – which can be used for field camp transfer equivalency or appropriate WKU field courses (such as Study Abroad and Study Away courses). Examples: Bahamas Geology and Mojave Desert Geology, both of which have been offered as GEOL 475 in the past

 **3. Detailed program description:**

|  |  |  |  |
| --- | --- | --- | --- |
| Courses | Hours | Courses | Hours |
| ~~Core~~ Required Courses | ~~20~~ | **Required Courses** | **43-46** |
| ~~GEOL 111 The Earth~~ | 3 | **GEOL/GEOG 103 Our Dynamic Earth OR GEOL 111 The Earth** | 3 |
| GEOL 112 Earth History | 3 | GEOL 112 Earth History | 3 |
| GEOL 113 The Earth Lab | 1 | GEOL 113 The Earth Lab | 1 |
| GEOL 114 Earth History Lab | 1 | GEOL 114 Earth History Lab | 1 |
|  |  | **GEOL 270 (3) OR GEOL 432 (4)** | **3-4** |
| GEOL 308 Structural Geology | 4 | GEOL 308 Structural Geology | 4 |
|  |  | **GEOG 316 Fundamentals of GIS** | **4** |
|  |  | **GEOG 317 GIS** | **4** |
|  |  | **GEOL 330 Mineralogy** | **4** |
|   |  | **GEOL 350 Petrology** | **4** |
| ~~GEOL 380 Intro. Field Techniques~~ | ~~3~~ | **GEOL 380 Intro. Field Techniques (3 hrs) plus GEOG 452 Geoscience Field Experiences (3 hrs) OR GEOG 452 (6 hours) OR GEOG 417 GIS Analysis & Modeling (3 hrs) and GEOG 419 GIS Programming (3 hrs)** | **6** |
|  |  | **GEOL 399 Supervised Research** | **1-3** |
| GEOL 460 Sed. / Strat. | 3 | GEOL 460 Sed. / Strat. | 3 |
| GEOL 499 Professional Prep. | 2 | GEOL 499 Professional Prep. | 2 |
|  |  |  |  |
| ~~Additional Required Courses~~ | ~~32~~ | Elective Courses | **9-6** |
| ~~GEOL 270 Analytical Techniques~~ | ~~3~~ | **9 or 6 hours of elective courses selected from any GEOL 2xx – 4xx courses, such as: 270, 310, 311, 325, 330, 350, 399, 405, 415, 420, 430, 432, 440, 465, 470, 475, and from GEOG 310, 391, 417 419, 420 and from BIOL 122/123** | **9-6**  |
| ~~GEOL /GEOG 310 Global Hydrology~~ | ~~3~~ |   |   |
| ~~GEOL 330 Mineralogy~~ | ~~4~~ |  |  |
| ~~GEOL 350 Petrology~~ | ~~4~~ |  |  |
| ~~GEOL 415 Environmental Geol.~~ | ~~3~~ |   |   |
| ~~GEOL 485 Fossil Fuels~~ | ~~3~~ |   |   |
| ~~Approve Geology Electives~~ | ~~12~~ |   |   |
|  Program Hours | 52 | **Minimum Program Hours**  | 52 |
|  |  |  |  |
| Other Requirements | ~~6~~ | **Other Requirements**  |   |
| ~~Geology Field Camp~~ | ~~6~~ | **To graduate with Geology Honors, take an additional 12 hours of GEOL courses beyond the minimum required for the major and maintain a GPA of 3.25 or greater** | 12  |
| ~~(which can count as GEOL electives)~~ |  |   |  |
| ~~or~~ |  |   |   |
| ~~Completion of the GIS Certificate~~ | ~~6~~ |   |   |
| ~~(requires 6 additional hours)~~ |  |   |  |
|  |  |  |  |
| Requirements outside Geology | ~~28~~ | Requirements outside Geology | **13** |
| MATH 136 Calculus I | 4 | MATH 136 Calculus I | 4 |
| ~~BIOL 122 Biological Concepts~~ | ~~3~~ |   |   |
| ~~BIOL 123 Biological Concepts Lab~~ | ~~1~~ |   |   |
| CHEM 120 College Chemistry I | 3 | CHEM 120 College Chemistry I | 3 |
| CHEM 121 College Chemistry I Lab | 2 | CHEM 121 College Chemistry I Lab | 2 |
| ~~PHYS 180 Intro. Modern Physics~~ | ~~3~~ | **PHYS 180-181 Intro. Modern Physics + Lab OR PHYS 201** | **4** |
| ~~PHYS 181 Intro. Modern Physics Lab~~ | ~~1~~ |  |  |
| ~~GEOG 316 Fundamentals of GIS~~ | ~~4~~ |   |   |
| ~~GEOG 317 GIS~~ | ~~4~~ |   |   |
| ~~GEOG 391 Data Analysis~~ | ~~3~~ |   |   |

**4. Rationale for the proposed program change:**

Since the Geology Professional Extended Major was created the Department has added and replaced faculty who have brought an expanded intellectual and skill base, it has acquired new instrumentation and technical opportunities, and the Department is much more student-research and student retention focused (Gatton – Undergraduate – Graduate). To graduate students with a B.S. degree in the 120-hour WKU model, the Department reorganized the major by identifying faculty teaching strengths and priorities, and by creating the best possible Geology program to make our students marketable to private industry, government, and to graduate programs if they aspire to careers in the academy. .

 To accomplish this, the Geology faculty have streamlined the core essential classwork required for a modern geologist, while maintaining a flexible and rigorous program for students to enhance their professional interests. The field of geology is very broad and a single program cannot encompass all aspects of the science within 120 hours. Therefore, we propose two enhancements to the current base program:

1. A new B.S. with Honors option will increase academic rigor by allowing students, upon request, to take additional elective courses in their area of interest, while maintaining a minimum GPA of 3.25.
2. In the near future, the Department aims to develop a JUMP B.S./M.S. program that should make the Geology program more competitive among WKU’s benchmark and regional schools. Streamlining the current B.S. is a critical step toward student retention and the JUMP B.S./M.S.

The Geology faculty conducted a survey of geology course requirements at 38 universities across the United States, which included WKU benchmark schools, Kentucky schools with a Geology Program, national schools with an R-1 ranking (Carnegie classification), and national schools that are similarly comprehensive institutions to WKU. All programs were very diverse; however, nearly all have a common core-set of classes. This core-set is reflected in our program and consists of eight courses: the WKU equivalents are GEOL 111, 112, 113, 114, 308, 330, 350, and 460. Above this core, there were no broadly consistent course-work directions among the schools surveyed, and it was clear that each geology program emphasized its own faculty members’ strengths above, and sometimes within, the core.

The Geology program still follows the national model, but faculty are enhancing research opportunities, deepening STEM exploration possibilities, and tailoring the program to retain more students with diverse educational backgrounds. The survey data are available upon request.

**5. Proposed term for implementation:** Fall 2014

**6. Dates of prior committee approvals:**

Department of Geography and Geology \_\_\_\_12/13/2013\_\_\_\_\_\_\_\_

 Ogden College Curriculum Committee \_\_\_\_\_2/6/14\_\_\_\_\_\_\_\_\_\_\_\_

 Undergraduate Curriculum Committee \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 University Senate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Proposal Date: January 16, 2014

**Ogden College**

**Department of Geography and Geology**

**Proposal to Revise a Program**

**(Action Item)**

Contact Person: Gregory Goodrich, gregory.goodrich@wku.edu, 745-5986

**1. Identification of program:**

* 1. Current program reference number: 578
	2. Current program title: Major in Meteorology
	3. Credit hours: 49.5

**2. Identification of the proposed program changes:**

* The meteorology course prefix changed from GEOG to METR
* Program hours decreased from 49.5 to 48 hours
* The Foundational/Technique/Thematic/Professional program structure is replaced with a simpler Required/Elective program structure
* GEOG 100/GEOL 102/GEOL 111 is replaced with METR 122 Aviation Meteorology
* GEOG 110 was removed
* CS 245 was removed
* GEOG 391 name changed to Spatial Data Analysis
* GEOG 300 name changed to Writing in the Geosciences
* The course number for Weather Analysis was changed from 424 to 324
* The number of additional required courses was changed from 26 to 25 to reflect changes from the Math Department in the numbering of calculus courses
* CS 180 Computer Science I was replaced by CS 170 Problem Solving and Programming
* METR 325, 422, 438 are no longer required and are now electives

**3. Detailed program description:**

|  |  |
| --- | --- |
| The major in meteorology (reference number 578) leads to a Bachelor of Science in Meteorology and requires a minimum of ~~49.5~~ semester hours of meteorology, geography, and computer science. A minor program is not required. Other required courses in physics and mathematics total an additional ~~26~~ semester hours. Students majoring in meteorology will learn the key concepts and skills necessary to qualify as a meteorologist for the National Weather Service, and to meet the standards of the American Meteorological Society. ■ ~~Foundation Requirements: 10 hours~~~~GEOG 100 or GEOL 102 or GEOL 111 (3)~~~~GEOG 110 World Regional Geog (3)~~~~GEOG~~ 121 Intro Meteorology (3)GEOG 499 Prof. Development (1)■ ~~Technique Requirements:~~ ~~10 hours~~GEOG 300 ~~Research Methods~~ (3)GEOG 316 Fundamentals of GIS (4)GEOG 391 ~~Data Analysis (3)~~■ ~~Thematic Requirements: 11 hours~~~~GEOG~~ ~~422 Physical Climatology (4)~~~~GEOG~~ ~~424~~ Weather Analysis (3)~~CS 180 Computer Science I (3)~~■ ~~Professional Requirements: 19.5 hours~~~~GEOG 325 Met. Instrumentation (3)~~~~GEOG~~ 431 Dynamic Met. I (3)~~GEOG~~ 432 Synoptic Meteorology (3)~~GEOG~~ 433 Dynamic Met. II (3)~~GEOG~~ 437 Mesoscale Meteorology (3)~~GEOG~~ ~~438 Physical Meteorology (3)~~~~CS 245 Intro Programming Lang. (1.5)~~The following are additional courses required outside of the major: PHYS 255/256, 265/266; MATH 136, 137, 237, and 331. | The major in meteorology (reference number 578) leads to a Bachelor of Science in Meteorology and requires a minimum of **48** semester hours of meteorology, geography, and computer science. A minor program is not required. Other required courses in physics and mathematics total an additional **25** semester hours. Students majoring in meteorology will learn the key concepts and skills necessary to qualify as a meteorologist for the National Weather Service, and to meet the standards of the American Meteorological Society. ■ **Required courses: 36 hours****METR** 121 Intro Meteorology (3)**METR 122 Aviation Meteorology (3)****CS 170 Problem Solving/Programming (3)**GEOG 300 **Writing in the Geosciences** (3)GEOG 316 Fundamentals of GIS (4)**METR 324** Weather Analysis (3)GEOG 391 **Spatial Data Analysis**  **(4)****METR** 431 Dynamic Met. I (3)**METR** 432 Synoptic Meteorology (3)**METR** 433 Dynamic Met. II (3)**METR** 437 Mesoscale Meteorology (3)GEOG 499 Prof. Development (1)■ **Elective courses: 12 hours****Select from any METR 2xx-4xx courses, with your advisor, (examples include 325, 335, 422, 438, 439, 440) to meet the 48 unduplicated hours required.** The following are additional courses required outside of the major: PHYS 255/256, 265/266; MATH 136, 137, 237, and 331. |

**4. Rationale for the proposed program change:** These revisions are proposed due to feedback from recent graduates as well as growth in course offerings since the program was developed in 2008. When the Meteorology major was created in 2008, we could only offer a bare minimum of courses to support the major due to a lack of staffing and low student enrollment. The Meteorology program has doubled in size in the last five years and we now have four faculty members supporting the program, which has allowed us to increase our course offerings and provide flexibility to our students. The proposed changes simplify the program structure by having 36 required hours and 12 elective hours, which gives students the opportunity to tailor their elective courses to fit their career goals. The changes in the required Computer Science courses are a product of feedback from recent graduates as well as feedback from employers.

**5. Proposed term for implementation and special provisions (if applicable):** Fall 2014

**6. Dates of prior committee approvals:**

Department of Geography and Geology: \_\_\_\_\_\_1/16/2014\_\_\_\_\_

 Ogden Curriculum Committee \_\_\_\_\_\_2/6/14\_\_\_\_\_\_\_\_\_

 Undergraduate Curriculum Committee \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 University Senate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Proposal Date: 01/13/14

**Ogden College of Science and Engineering**

**Potter College of Arts & Letters**

**Department of Mathematics**

**Potter College Dean’s Office**

**Proposal to Create a New Course**

**(Action Item)**

Contact Person: Claus Ernst 745-6224 claus.ernst@wku.edu

 Molly Dunkum

 Larry Snyder

**1. Identification of proposed course:**

* 1. Course prefix (subject area) and number: MATH 240
	2. Course title: Geometry in Art and Architecture
	3. Abbreviated course title: Geometry in Art and Architecture
	4. Credit hours and contact hours: 3
	5. Type of course: L (lecture)
	6. Prerequisites: Any Colonnade MATH course with a B or better or a Math ACT of at least 24 or an MPE of 20
	7. Course catalog listing:

Euclidean geometry with historical applications in art and architecture, such as tiling, circular and spiral designs, designs of the great cathedrals in Europe, Buddhist stupas in Asia, Islamic art, the development of visual perspective, and musical ratios. This course is cross-listed with HUM 240.

**2. Rationale:**

* 1. Reason for developing the proposed course:

MATH 240 will be proposed as a Colonnade Connections course that introduces topics in geometry with applications in architecture, music, and art. This course is multi-disciplinary by design, demonstrating the systemic nature of geometry across disciplines. It will be team-taught by faculty in Ogden and Potter Colleges.

* 1. Projected enrollment in the proposed course:

Approximately 25 students per semester.

* 1. Relationship of the proposed course to courses now offered by the department:

Other geometry courses in the Department of Mathematics are MATH 127, MATH 206 , MATH 323 and 423, and MATH 403. MATH 127 is a course that reinforces topics in geometry with applications in architectural science and construction management for students from the Architectural and Manufacturing Sciences Department. MATH 323 and 423 provide an axiomatic examination of Euclidean and hyperbolic geometry for mathematics majors, and MATH 206 and MATH 403 is a geometry courses for students preparing to teach in elementary or middle school. None of these mathematics courses provides the emphasis on art, architecture and music contained in the proposed course. In Potter College, the Department of Art does offer several courses on architecture: ART 316 (Medieval Art and Architecture), ART 407 (Islamic Art and Architecture), and ART 445 (American Architectural History). Moreover, the two courses on the History of Art (ART 105 and 106) and the various surveys of art in particular periods or regions (e.g., ART 30: Ancient Greek and Roman Art, ART 315: Northern Baroque Art, or ART 401: Italian Renaissance) all deal with developments in architectural style and artistic technique. The Department of Folk Studies and Anthropology offers FLK 445: American Architectural History, and the sequence of Music Theory courses (MUS 100, 101, 200, and 201) all deal with triads, intervals, and harmonic progression. However, none of the courses listed provides a systematic analysis of the role of geometry in the development of architectural design, visual art, or musical theory.

* 1. Relationship of the proposed course to courses offered in other departments:

No other department in the university offers such a course in geometry.

* 1. Relationship of the proposed course to courses offered in other institutions:

Similar courses have been taught throughout the world. For instance: Math 5, *Geometry of Art and Architecture,* at Dartmouth College; GEK1518, *Mathematics in Art and Architecture*, at the National University of Singapore, and *Art Architecture and Mathematics,* at Leeds University.

**3. Discussion of proposed course:**

* 1. Course objectives:

Upon completion of MATH 240, students will

* Understand the foundations of Euclidean geometry
* Appreciate the historical significance of the study of geometry
* Be able to recognize and replicate applications of geometry in art and architecture
	1. Suggested content outline:

* Ratio, proportion, and music
* Golden Ratio and Fibonacci Numbers
* Triangles, Quadrilaterals and polygons and their use in art and architecture
* The circle, ellipses and spirals and their use in art and architecture
* Solids, polyhedra their use in art and architecture
* Origins of visual perspective
* Fractals and Islamic Art
* Geometry and Sacred Space
* Design and Ornamentation in a Gothic Cathedral
	1. Student expectations and requirements:

Students will be expected to complete assignments, tests and a comprehensive final exam. In addition students will work in teams of two to complete projects on topics suggested by geometric applications encountered in their surroundings

Project topics will be suggested by geometric applications that students encounter in their surroundings. Examples of such topics are:

* Windows in Bowling Green. Are there churches, old homes with fancy windows? Make digital pictures of these and describe their geometry.
* Geometrically interesting buildings on campus. Select a building, get floor plans, make digital pictures and describe the geometry.
* A survey of the art pieces all over campus. What can you say about their geometry?
* The art works of Escher and the geometry behind them.

Each student team must write a term paper and give a presentation.

* 1. Tentative texts and course materials:

Calter, P., *Squaring the Circle: Geometry in Art and Architecture*, Key College Publishing, 2008, ISBN 1-930190-82-4 or similar text

Camille, Michael. *Gothic Art: Glorious Visions*, Prentice Hall/Abrams, 1996.

**4. Resources:**

* 1. Library resources: Existing library resources are sufficient.
	2. Computer resources: None

**5. Budget implications:**

* 1. Proposed method of staffing: Existing faculty will teach the course.
	2. Special equipment needed: None
	3. Expendable materials needed: None
	4. Laboratory materials needed: None

**6. Proposed term for implementation: 201430**

**7. Dates of prior committee approvals:**

Department of Mathematics \_\_\_1/23/2014\_\_\_\_\_\_

 OCSE Curriculum Committee \_\_\_2/6/2014\_\_\_\_\_\_\_

 PCAL Curriculum Committee \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Undergraduate Curriculum Committee \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 University Senate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Attachment: Bibliography, Library Resources Form**, **Course Inventory Form**

Proposal Date: 12/12/13

**Ogden College of Science and Engineering**

**Department of Psychological Sciences**

**Proposal to Make Multiple Revisions to a Course**

**(Action Item)**

Contact Person: Dr. Reagan Brown, Reagan.brown@wku.edu, 5-6939

**1. Identification of course:**

* 1. Current course prefix (subject area) and number: PSYS 361 (Note: This course was formerly PSY 361. The prefix change is in a prior proposal.)
	2. Course title: Psychological Tests and Measurement

**2. Revise course title:**

* 1. Current course title: Psychological Tests and Measurement
	2. Proposed course title: Psychological Measurement
	3. Proposed abbreviated title: Psych Measurement
	4. Rationale for revision of course title: The change in course title from PSYCHOLOGICAL TESTS AND MEASUREMENT to PSYCHOLOGICAL MEASUREMENT is proposed for two reasons. First, the newer title is less wordy than the current title. Second, the topic area of psychological testing is but a subset of the larger topic area of psychological measurement; all psychological measurement involves the use of a psychological test of some sort. Note that the course description and course content is not changing. The proposed new title fits the course description as well as the current title fits the description.

**3. Revise course number:**

* 1. Current course number: PSYS 361
	2. Proposed course number: PSYS 413
	3. Rationale for revision of course number: A new course numbering system was developed for the Department of Psychological Sciences and this change is required in order to make the number for this course consistent with this system.

**4. Revise course prerequisites/corequisites/special requirements: n/a**

4.1 Current prerequisites/corequisites/special requirements: (indicate which)

4.2 Proposed prerequisites/corequisites/special requirements:

4.3 Rationale for revision of course prerequisites/corequisites/special requirements:

4.4 Effect on completion of major/minor sequence:

**5. Revise course catalog listing:**

1. Current course catalog listing:
2. Proposed course catalog listing:
	1. Rationale for revision of course catalog listing:

**6. Revise course credit hours:**

* 1. Current course credit hours:
	2. Proposed course credit hours:
	3. Rationale for revision of course credit hours:

**7.** **Revise grade type:**

 7.1 Current grade type:

 7.2 Proposed grade type:

 7.3 Rationale for revision of grade type:

**8. Proposed term for implementation: Fall 2014**

**9. Dates of prior committee approvals:**

|  |  |
| --- | --- |
| Department of Psychological Sciences  | January 6, 2014 |
| OCSE Graduate Curriculum Committee  | February 6, 2014 |
| Undergraduate Curriculum Committee |  |
| University Senate |  |

Proposal Date: 12/10/13

**Ogden College of Science and Engineering**

**Department of Psychological Sciences**

**Proposal to Make Multiple Revisions to a Course**

**(Action Item)**

Contact Person: Dr. Farley Norman, farley.norman@wku.edu, 5-2094

**1. Identification of course:**

* 1. Current course prefix (subject area) and number: PSYS 411 (Note: This course was formerly PSY 411. The prefix change is in a prior proposal.)
	2. Course title: Psychology of Sensation and Perception

**2. Revise course title:**

* 1. Current course title: Psychology of Sensation and Perception
	2. Proposed course title: Sensory and Perceptual Systems
	3. Proposed abbreviated title: SENS/PERCEP
	4. Rationale for revision of course title: The study of sensation and perception is interdisciplinary and not limited to the discipline of Psychological Sciences. Physicists, biophysicists, psychologists, neurophysiologists, and engineers also study sensation and perception. The new course title is also more descriptive of the course content: the course content is devoted to the neurophysiology and functionality of systems within the brain devoted to sensation and perception.

**3. Revise course number:**

* 1. Current course number: PSYS 411
	2. Proposed course number: PSYS 363
	3. Rationale for revision of prefix and course number: The new prefix and number are required because the course is being moved from the course inventory of the Department of Psychology to the inventory of the Department of Psychological Sciences.

**4. Revise course prerequisites/corequisites/special requirements:**

4.1 Current prerequisites/corequisites/special requirements: PSY 100 and junior standing or permission of the instructor.

4.2 Proposed prerequisites/corequisites/special requirements: Sophomore standing or permission of the instructor.

4.3 Rationale for revision of course prerequisites/corequisites/special requirements: Successful performance in this class does not require a background in PSYS 100/PSY 100 or Junior standing.

4.4 Effect on completion of major/minor sequence: N/A

**5. Revise course catalog listing:**

1. Current course catalog listing: PSY 411. PSYCHOLOGY OF SENSATION AND PERCEPTION (3) Prerequisites: PSY 100 and junior standing or permission of the instructor. Basic sensory mechanisms involved in taste, smell, hearing, and sight, with primary emphasis on auditory and visual perception. Topics include speech perception; visual illusions; color vision; perception of form, shape, movement, time, and space; perceptual motor coordination; and the development of perception.
2. Proposed course catalog listing: PSYS 363. SENSORY AND PERCEPTUAL SYSTEMS. (3) Prerequisites: Sophomore standing or permission of the instructor. Examination of human/animal sensory and perceptual systems using neurophysiological and psychophysical methods. Examination of both subcortical and cortical brain functioning. Emphasizes the visual, tactile/haptic, and auditory systems.
3. Rationale for revision of course catalog listing: The old catalog listing is dated and does not reflect the current content of the course, especially with regards to the neural systems involved in perception. The new listing is more descriptive of the content that is actually taught.

**6. Revise course credit hours: N/A**

* 1. Current course credit hours:
	2. Proposed course credit hours:
	3. Rationale for revision of course credit hours:

**7.** **Revise grade type: N/A**

 7.1 Current grade type:

 7.2 Proposed grade type:

 7.3 Rationale for revision of grade type:

**8. Proposed term for implementation: Fall Semester 2014**

**9. Dates of prior committee approvals:**

|  |  |
| --- | --- |
| Department of Psychological Sciences  | January 6, 2014 |
| OCSE Curriculum Committee  | February 6, 2014 |
| Undergraduate Curriculum Committee |  |
| University Senate |  |

Proposal Date:1/6/14

**Ogden College of Science and Engineering**

**Psychological Sciences**

**Proposal to Create a New Course**

**(Action Item)**

Contact Person: Aaron Wichman, aaron.wichman@wku.edu, 745-2443

**1.** **Identification of proposed course:**

* 1. Course prefix (subject area) and number: PSYS 433
	2. Course title: Judgment and Decision Making
	3. Abbreviated course title: Judgment and Decision Making
	(maximum of 30 characters or spaces)
	4. Credit hours: 3 Variable credit : No.
	5. Grade type: Standard Letter Grade
	6. Prerequisites: PSYS 210/PSY 210 and PSYS 211/PSY 211 or permission of the instructor
	7. Course description: Description and analysis of how actual decisions differ from optimal decisions. Survey of judgments under risk and uncertainty and of major topics in judgment research.

**2. Rationale:**

Reason for developing the proposed course:

The field of Judgment and Decision Making (JDM) is at the intersection of social psychology and cognitive science. As the psychological sciences become more interdisciplinary, courses that feature traditionally interdisciplinary content, such as JDM, become more central to the mission of the department.

Research in the JDM area shows that people ranging from MDs to CEOs make suboptimal decisions. JDM research demonstrates immediate applicability in a broad variety of contexts such as Middle East peace negotiations, evaluations of terror suspects, H.I.V. testing, and the way in which even seasoned real-estate professional appraisers can be biased by thousands of dollars by a shrewd seller’s initially presented price estimate.

In order for students to become productive and engaged as indicated in the WKU mission statement, understanding of influences and weaknesses in everyday decision making are essential. Somewhat counterintuitively, much of the research presented in the class will offer an understanding of how decision making breaks down, not how it optimally unfolds. Understanding failure points is key to understanding systems operation, and this course teaches students how to think this way.

This new course is an expression of the increasingly interdisciplinary nature of the psychological sciences and of the need to outfit our graduates with the best that our respective fields have to offer.

* 1. Projected enrollment in the proposed course: Students in Cognitive Psychology and Social Psychology regularly ask for coverage of JDM topics, which cannot be accommodated in the existing course curricula. In Cognitive Psychology, they ask about the psychology of choice, and in Social Psychology, students usually ask about topics related to person judgment. Based on this level of student interest, the course is expected to enroll 20 -30 students each time it is offered (once a year).
	2. Relationship of the proposed course to courses now offered by the department:

Cognitive Psychology (PSY 405) covers a small number of relevant topics during a single course module. No other similar courses are offered.

* 1. Relationship of the proposed course to courses offered in other departments:

Decision making is essential. Many disciplines therefore include some degree of coverage of decision making procedures in their respective areas as part of their curriculum. Courses in Accounting (e.g., ACCT 310), Agricultural Finance (e.g., AGEC 463), and Economics (ECON 307) address decision making based on information relevant to success in these fields. However, this coverage is specific to the course’s content area. As one example of this specificity, AMS 355, Systems Design, covers decision making specifically in manufacturing situations. The applications covered in these existing WKU courses are very different from the proposed course.

The proposed course covers general principles that explain decision making across many different areas. It addresses judgment and decision making research in the psychological sciences and related fields, and no emphasis is placed on achieving optimum decision outcomes in any particular content field.

2.5 Relationship of the proposed course to courses offered in other institutions:

Only one state university in Kentucky has a similar undergraduate course. This is at Murray State: Problem Solving and Decision Making (PSY 327). Among our benchmark institutions, only Ohio University offers a similar judgment and decision making course (PSY 3330). Northern Illinois University offers a course on Social Judgment (PSYC 473), but this is limited to the study of judgments about people, not judgment and decision making in general.

WKU will be an innovator in offering this course in our Psychological Sciences Department.

**3. Discussion of proposed course:**

* 1. Schedule type: Lecture
	2. Learning Outcomes: Students will be able to:
* Explain the differences between normative and descriptive theories of judgment.
* Demonstrate an understanding of heuristics and biases in judgment, and the conditions under which these are most problematic.
* Explain how prospect theory has influenced the study of judgment.
* Understand how, and the conditions under which, emotions influence decisions.
* Identify likely cases of motivated reasoning and know what steps to take to reduce it.
* Understand and know to avoid confirmatory hypothesis testing.
* Explain why people often have difficulty predicting their own behavior.
* Describe how rational and intuitive cognitive systems work both together and at odds to produce different judgment outcomes in different contexts.
* Be able to identify different influences on judgments and decisions in day-to-day life and take steps to minimize decision bias in these situations.
* Demonstrate knowledge of the psychological processes involved in judgment and decision making, and of the optimality of the decisions these processes facilitate.

3.1 Content outline:

The course will consist of bi-weekly lectures covering topics including Normative Decision Theory, Prospect Theory, Decision Biases and Correction, Heuristics, Emotions and Judgment, Intertemporal Choice, Subjective Value, Motivated Reasoning, Confirmatory Hypothesis Testing, Counterfactuals, and Comparison Judgments

3.2 Student expectations and requirements:

Students will be graded on their performance using exams, a final paper, and class discussion contributions.

3.3 Tentative texts and course materials:

Ariely, D. (2008). Predictably Irrational: The hidden forces that shape our decisions. Harper Collins. (excerpts)

Gilovich, T., & Griffin, D. W. (2010). Judgment and decision making. In S. T.Fiske, D. T. Gilbert, and G. Lindzey (eds.) *Handbook of Social Psychology, fifth edition, vol. 1* (pp. 542-589).

Hastie, R. & Dawes, R.M. (2009, 2ed). Rational Choice in an Uncertain World. Sage Publications. (main textbook)

Kahneman, D. (2011). *Thinking, fast and slow*. Macmillan.(excerpts)

Selected journal articles also will be used:

Dijksterhuis, A., Bos, M. W., Nordgren, L. F., & van Baaren, R. B. (2006). On making the right choice: The deliberation-without-attention effect. Science, 311, 1005-1007.

Fast, N. J., Sivanathan, N., Mayer, N. D., & Galinsky, A. D. (2012). Power and overconfident decision making. Organizational Behavior and Human Decision Processes, 117, 249-260.

Payne, J. W., Samper, A., Bettman, J. R., & Luce, M. F. (2008). Boundary conditions on unconscious thought in complex decision making. Psychological Science, 19, 1118-1123.

Payne, J. W., Sagara, N., Shu, S. B., Appelt, K. C., & Johnson, E. J. (2013). Life expectation: A constructed belief? Journal of Risk and Uncertainty, 46, 27-50.

Stanovich, K.E. & West, R.F. (2008). On the relative independence of thinking biases and cognitive ability. Journal of Personality and Social Psychology. 94, 672-695.

**4. Resources**

1. Library resources: Psychology indexing/abstracting/full-text services offered by the WKU library will provide adequate access to journal articles needed for this course.
2. Computer resources: WKU’s web-based instructional tools (i.e., Blackboard) will be used for this course. This technology is adequate for the needs of the professor and the students

**5. Budget implications:**

* 1. Proposed method of staffing: Faculty staffing demands will be reduced by the establishment of course equivalencies with the Department of Psychology, thereby freeing existing faculty to teach this course.
	2. Special equipment needed: None.
	3. Expendable materials needed: None.
	4. Laboratory materials needed: None.

**6. Proposed term for implementation:** Fall 2014

**7. Dates of prior committee approvals:**

|  |  |
| --- | --- |
| Department of Psychological Sciences | January 6, 2014 |
| OCSE Curriculum Committee  | February 6, 2014 |
| Undergraduate Curriculum Committee  |  |
| University Senate  |  |

Proposal Date: January 6, 2014

**Ogden College of Science and Engineering**

**Department of Psychological Sciences**

**Proposal to Create a New Course**

**(Action Item)**

Contact Person: Sharon A. Mutter, email: Sharon.mutter@wku.edu, phone: 5-4389

**1.** **Identification of proposed course:**

* 1. Course prefix (subject area) and number: PSYS 462
	2. Course title: NEUROSCIENCE OF LEARNING AND MEMORY
	3. Abbreviated course title: NEURO LEARNING MEMORY
	4. Credit hours: 3 Variable credit: No
	5. Grade type: Standard Letter Grade
	6. Prerequisites/corequisites: PSYS 330 Cognitive Psychology or PSYS 315 Psychology of Learning, and PSYS 360 Behavioral Neuroscience
	7. Course description: Introduction to the neural basis of learning and memory. Topics include cellular and molecular mechanisms of learning and memory, neural substrates of different learning and memory systems, impairment of learning and memory tied to brain disorders.

**2. Rationale:**

* 1. Reason for developing the proposed course: In recent years, the boundaries between psychology and neuroscience have blurred and the study of the functional role of brain structures and activity in all forms of cognition and behavior has become increasingly important. Thus a well-rounded education in psychological science now provides an in-depth understanding of both psychology and neuroscience and students who can perform or communicate research in both disciplines will be more competitive for future graduate study and jobs.
	2. Projected enrollment in the proposed course: Because this course will combine lecture and seminar delivery methods, enrollment will be restricted to 20 – 25 students. Based on enrollment averages for similar upper level undergraduate psychology classes, the course is expected to enroll the maximum number of students each time it is offered (once a year).
	3. Relationship of the proposed course to courses now offered by the department: The proposed course will integrate and build on content covered in three foundational survey courses currently offered by the department: PSYS 315 Psychology of Learning covers basic principles of human and animal learning, PSYS 330 Cognitive Psychology provides an overview of cognitive processes, including memory, and PSYS 360 Behavioral Neuroscience covers brain processes and structures underlying a variety of psychological constructs, including learning and memory. Whereas these foundational courses provide breadth of coverage, the proposed course will provide depth, specifically in the coverage of brain processes and structures associated with learning and memory.
	4. Relationship of the proposed course to courses offered in other departments: There are no other departments at WKU that offer courses similar to the proposed course.
	5. Relationship of the proposed course to courses offered in other institutions: Many psychology departments now offer at least one course that either focuses on or has primary content on the neuroscience of learning and memory. Examples include: University of Vermont, PSY 380 Neurobiology of Learning and Memory, Brown University PSY1150 Memory and the Brain, University of Michigan PSY 434 Biopsychology of Learning and Memory. WKU benchmark institutions with similar courses include Ball State University PSY 468 Cognitive Neuroscience, BGSU PSY 3330 Cognitive Neuroscience, Central Michigan University PSY 487 Neuroscience Seminar, MTSU PSY 2190 Human Brain, Behavior, and Consciousness, UNC-Charlotte PSY 4316 Cognitive Neuroscience, and UNC-Greensboro PSY 435 Brain and Psychological Processes.

**3. Discussion of proposed course:**

* 1. Schedule type: Lecture
	2. Learning Outcomes:
* Identify key views and issues concerning the neural organization of learning and memory and discuss how these have evolved over time
* Become familiar with the general experimental approaches and methods used to study the neuroscience of learning and memory in humans and non-human animals
* Integrate findings in non-human animals with the neuroscience of human learning and memory
* Elaborate on the new and upcoming advances concerning memory and the brain
	1. Content outline: The course will consist of bi-weekly lectures and seminar presentations including, at a minimum, the following topics: Historical Perspectives on the Neuroscience of Learning and Memory, Behavioral and Neuronal Plasticity and Stability, Neural Substrates of Learning and Memory including: Emotional Learning and Memory: Amygdala, Motor Learning and Memory: Cerebellum, Contextual and Episodic Learning and Memory: Hippocampal Formation; Habit Learning and Memory: Striatum, Working Memory and Control Processes: Pre-frontal Cortex, Memory Disorders
	2. Student expectations and requirements: Students will be graded on their knowledge of course content via examination, seminar presentation and participation, and written review paper.
	3. Tentative texts and course materials:
		1. Textbooks:
* Eichenbaum, H. (2011*). The Cognitive Neuroscience of Memory 2nd Ed.* New York: Oxford University Press.
* Gluck, M.A., Mercado, E., & Myers, C.E. (2011). *Learning and memory: From brain to behavior*. New York, NY: Worth Publishers.
* Rudy, J. W. (2008). *The neurobiology of learning and memory.* Sunderland, MA: Sunderland.
	+ 1. Representative readings:
			1. Historical Perspectives
	+ Hebb, D.O. (1949). *The organization of behavior*. Oxford, England: Wiley (pp. 60 – 66; 224 – 231).
	+ Martinez, J.L, & Derrick, B.E. (1996). Long-term potentiation and learning. *Annual Review of Psychology, 47*, 173-203.
	+ Tolman, E.C. (1948). Cognitive maps in rats and men. *Psychological Reviews, 55,* 189–208.
	+ Bouton M. & Moody (2004). Memory processes in classical conditioning. *Neuroscience and Biobehavioral Reviews*, 28, 663-674.
		- 1. Emotional Memory
	+ Phelps E.A., LeDoux J.E. (2005). Contributions of the amygdala to emotion processing: From animal models to human behavior. *Neuron 48(2),* 175-87.
* Monfils, M.H., Cowansage, K.K., Klann, K., LeDoux, J.E. (2010). Extinction reconsolidation boundaries: Key to persistent attenuation of fear memories. *Science, 324(5929)*, 951 -955.
	+ Schiller, D., Monfils, M.H., Raio, C.M., Johnson, D.C., LeDoux, J.E. & Phelps, E.A. (2010). Preventing the return of fear in humans using reconsolidation update mechanisms. *Nature, 463*, 50-53.
	+ Brohawn K.H., Offringa R., Pfaff D.L., Hughes K.C., Shin L.M. (2010). The neural correlates of emotional memory in posttraumatic stress disorder. *Biological Psychiatry, 68(11),* 1023-30.
		- 1. Habit and Reward Learning
	+ Horvitz, J.C. (2009). Stimulus-response and response-outcome learning mechanisms in the striatum. *Brain Res.*, 199(1), 129-140.
	+ Knowlton, B. J., Mangels, J. A. & Squire, L. R. (1996). A neostriatal habit learning system in humans. *Science, 262*, 1747-1749.
	+ Packard, M. G., & Knowlton, B. (2002). Learning and memory functions of the basal ganglia. *Annual Review of Neuroscience, 25*, 563 – 593.
	+ Shohamy, D., & Adcock, R.A. (2010). Dopamine and adaptive memory. *Trends in Cognitive Sciences, 14*, 464 - 472
		- 1. Consolidation and Reconsolidation
* Born, J., Rasch, B. & Gais, S. (2006). Sleep to remember. *Neuroscientist, 12*, 410-424
* McGaugh, J.L. (2000). Memory – a century of consolidation. *Science, 287*, 248–251.
* Ji D., Wilson M.A. (2007). Coordinated memory replay in the visual cortex and hippocampus during sleep. *Nature Neuroscience, 10(1)*, 100-7.
* Sterpenich, V., et al. (2009). Sleep promotes the neural reorganization of remote emotional memory. *J Neurosci., 29(16),* 5143-5152.
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	+ - 1. Motor Learning
	+ Christian, K.M., & Thompson, R.F. (2005). Long-term storage of an associative memory trace in the cerebellum*. Behavioral Neuroscience, 119*, 526-537.
		- 1. Hippocampus and Amnesia
	+ Dolan, R.J., & Fletcher, P.F. (1999). Encoding and retrieval in human medial temporal lobes: An empirical investigation using functional magnetic resonance imaging. *Hippocampus, 9*, 25-34.
	+ Rempel-Clower, N.D., Zola, S.M., Squire, L.R., & Amaral, D.G. (1996). Three cases of enduring memory impairment after bilateral damage limited to the hippocampal formation. *J. Neurosci., 16*, 5233-5255.
	+ Schacter, D.L., Alpert, N.M., Savage, C.R., Rauch, S.L., & Albert, M.S. (1996). Conscious recollection and the human hippocampal formation: Evidence from positron emission tomography. *Proc. Nat. Acad. Sci., 93*, 321-325.
		- 1. Interacting Memory Systems
	+ Sauvage, M.M., Fortin, N.J., Owens, C.B., Yonelinas, A.P., Eichenbaum, H. (2008). Recognition memory: opposite effects of hippocampal damage on recollection and familiarity. *Nature Neuroscience, 11(1)*, 16-18.
	+ Bechara A, Tranel D, Damasio H, Adolphs R, Rockland C, Damasio A.R. (1995). Double dissociation of conditioning and declarative knowledge relative to the amygdala and hippocampus in humans. *Science, 269(5227),* 1115-1118.
	+ Li, J., Schiller, D., Schoenbaum, G., Phelps, E.A., Daw, N.D. (2011). Differential roles of human striatum and amygdala in associative learning. *Nature Neuroscience, 14(10),* 1250-1252.
		- 1. Age and Memory Disorders
* Garrard, P., Maloney, L.M., Hodges, J.R., & Patterson, K. (2005). The effects of very early Alzheimer’s disease on

the characteristics of writing by a renowned author. *Brain, 128*, 250-260.

* Morris, J.C., Storandt, M., Miller, J.P., McKeel, D.W., Price, J.L., Rubin, E.H., & Berg, L. (2001). Mild cognitive impairment represents early-stage Alzheimer’s disease. *Arch. Neurol., 58*, 397-405.
* Fleischman, D.A., & Gabrieli, J. (1999). Long-term memory in Alzheimer’s disease. *Curr. Opin. Neurobio., 9*, 240-244.
* Moody, T.D., Bookheimer, S. Y., Vanek, Z., & Knowlton, B. J. (2004). An implicit learning task activates medial temporal lobe in patients with Parkinson’s disease. *Behavioral Neuroscience, 118*, 438-442.
* Moustafa, A.A., Sherman, S. J., & Frank, M.J. (2008). A dopaminergic basis for working memory, learning, and attentional shifting in Parkinsonism. *Neuropsychologia, 46*, 3144 – 3156.

**4. Resources:**

* 1. Library resources: Books, reference materials, audio-visual materials, and psychology indexing/abstracting/full-text services offered by the WKU library are adequate for this course.
	2. Computer resources: WKU’s web-based instructional tools (i.e., Blackboard) will be used for this course. This technology is adequate for the needs of the professor and the students.

**5. Budget implications:**

* 1. Proposed method of staffing: Faculty staffing demands will be reduced by the establishment of course equivalencies with the Department of Psychology, thereby freeing existing faculty to teach this course.
	2. Special equipment needed: None
	3. Expendable materials needed: None
	4. Laboratory materials needed: None

**6. Proposed term for implementation:** Fall 2014

**7. Dates of prior committee approvals:**

|  |  |
| --- | --- |
| Department of Psychological Sciences | January 6, 2014 |
| OCSE Curriculum Committee  | February 6, 2014 |
| Undergraduate Curriculum Committee  |  |
| University Senate |  |

Proposal Date:1/6/14

**Ogden College of Science and Engineering**

**Psychological Sciences**

**Proposal to Create a New Course**

**(Action Item)**

Contact Person: Farley Norman, farley.norman@wku.edu, 745-2094

**1.** **Identification of proposed course:**

* 1. PSYS 465
	2. Course title: Psychopharmacology
	3. Abbreviated course title: Psychopharmacology
	4. Credit hours: 3 Variable credit : No.
	5. Grade type: Standard Letter Grade
	6. Prerequisites: Junior standing or permission of the instructor.
	7. Course description: Examination of psychoactive drugs and their effects upon the brain and neural mechanisms responsible for mind and behavior.

**2. Rationale:**

* 1. Reason for developing the proposed course:

The mind and behavior of humans (and animals) is determined by billions of neurons (and supporting glial cells) within the brain and nervous system. The communication between neurons (and between neurons and glial cells) is biochemical in nature. Psychoactive drugs (e.g., commonly consumed ones, such as caffeine, or those used to treat psychiatric and psychological disorders) alter neuronal activity, and thus greatly affect mind and behavior. An understanding of psychopharmacology is essential for psychological science.

* 1. Projected enrollment in the proposed course: Based on enrollment averages for similar upper level undergraduate psychology classes, the course is expected to enroll 25 -30 students each time it is offered (once a year).
	2. Relationship of the proposed course to courses now offered by the department:

Behavioral Neuroscience (PSYS 360) covers a small number of relevant topics. No other similar courses are offered.

* 1. Relationship of the proposed course to courses offered in other departments:

Psychopharmacology is relevant to not only Psychological Science, but also to Biology. However, the WKU Department of Biology does not offer a stand-alone course devoted to psychopharmacology.

2.5 Relationship of the proposed course to courses offered in other institutions:

Most of WKU’s benchmark institutions already offer a psychopharmacology course, because it is central to understanding mind and behavior and how they are influenced by psychoactive drugs (e.g., Bowling Green State University, Central Michigan University, East Tennessee State University, Florida Atlantic University, Illinois State University, Indiana State University, Middle Tennessee State University, Northern Illinois University, Ohio University, & Towson University).

**3. Discussion of proposed course:**

* 1. Schedule type: Lecture
	2. Learning Outcomes: Students will be able to:
* Understand normal biochemical communication between neurons within the brain and nervous system
* Explain how neurotransmitters are synthesized within either the cell body of neurons or within presynaptic axon terminals
* Explain how neurotransmitters interact with pre- and post-synaptic receptors
* Identify how the action of neurotransmitters is terminated within the synapse
* Understand and explain how psychoactive drugs influence the synthesis and release of neurotransmitters at neuronal synapses, and how drugs influence termination of neurotransmitter action within synapses
* Identify where important neurotransmitter systems are located within the brain and central nervous system
* Explain why certain psychoactive drugs affect the reward systems within the brain and thus can become addictive
	1. Content outline:

The course will consist of lectures covering topics including Pharmacokinetics (i.e., how drugs are handled by the body) and Pharmacodynamics (i.e., how drugs act). Mechanisms of drug action will be covered for specific licit and illicit psychoactive drugs, including 1) those which are legal and commonly consumed (e.g., caffeine, nicotine, ethyl alcohol), 2) those which are used for psychiatric and medical therapy (e.g., antidepressants, pain relievers, anti-anxiety and antipsychotic drugs), and 3) those used for illicit recreational use (e.g., cocaine, cannabinoids). Comprehending how illicit psychoactive drugs work (like the THC [delta-9-tetrahydrocannabinol] in marijuana) is important for understanding normal brain function. For example, THC works by mimicking the naturally occurring neurotransmitter anandamide. The anandamide transmitter used in normal brain functioning was only discovered in 1992 after a thorough evaluation of how THC affects chemical communication between neurons.

* 1. Student expectations and requirements:

Students will be graded on their performance using quizzes and exams (exams will contain written short answer and/or essay questions in addition to multiple choice questions).

* 1. Tentative texts and course materials:

Meyer, J. S., & Quenzer, L. F. (2013, 2nd edition). Psychopharmacology: Drugs, the Brain and Behavior. Sunderland, MA: Sinauer Associates, Inc.

Julien, R. M., Advokat, C. D., & Comaty, J. E. (2011, 12th edition). A Primer of Drug Action. New York: Worth.

**4. Resources**

1. Library resources: Psychology and Science indexing/abstracting/full-text services offered by the WKU library will provide adequate access to journal articles helpful as supplemental sources for this course.
2. Computer resources: WKU’s web-based instructional tools (i.e., Blackboard) will be used for this course. This technology is adequate for the needs of the professor and the students

**5. Budget implications:**

* 1. Proposed method of staffing: Faculty staffing demands will be reduced by the establishment of course equivalencies with the Department of Psychology, thereby freeing existing faculty to teach this course.
	2. Special equipment needed: None.
	3. Expendable materials needed: None.
	4. Laboratory materials needed: None.

**6. Proposed term for implementation:** Spring 2015

**7. Dates of prior committee approvals:**

|  |  |
| --- | --- |
| Department of Psychological Sciences | January 6, 2014 |
| OCSE Curriculum Committee  | February 6, 2014 |
| Undergraduate Curriculum Committee  |  |
| University Senate  |  |

**Ogden College of Science and Engineering**

**Department of Psychological Sciences**

**Proposal to Revise A Program**

**(Action Item)**

Contact Person: Sharon Mutter, sharon.mutter@wku.edu, 5-4389

**1. Identification of program:**

* 1. Current program reference number: 591
	2. Current program title: Major in Psychology
	3. Credit hours: 52

**2. Identification of the proposed program changes:**

2.1 Catalog description has changed

2.2 Total credit hours have been reduced to 37 and a minor or second major is required

2.3 Degree type has been changed from AB to BS

2.4 Students now have the option to complete the program via one of the six thematic concentrations listed below or they may create their own individualized concentration:

* + Applied Psychological Science
	+ Biobehavioral Psychology
	+ Clinical Psychological Science
	+ Cognitive Psychology
	+ Developmental Science
	+ Social Psychology

2.5 Program components have been renamed or reorganized as follows:

* + Developmental Psychology is now Developmental Processes
	+ Learning/Cognition is now Learning and Cognition
	+ Social/Industrial-Organizational/Motivation and Personality/Abnormal have been combined into Individual Differences and Social Processes
	+ Biological Psychology is now Biological Bases of Behavior and Mental Processes
	+ Field Experience/Independent Study is now Capstone
	+ Applied Psychology is subsumed into the Concentration in Applied Psychology
	+ Psychology Electives is now Concentration Courses

2.6 Course prefixes, numbers, and titles have been revised(course revisions have been submitted in separate proposals)

2.7 Three new courses have been added and five courses have been dropped.

**3. Detailed program description:**

The side-by-side table below shows the deletions to the old program (strike through) and the additions (bold) to the proposed program. The six core courses listed in the first paragraph of the current program (i.e., PSY 100, PSY 210, PSY 211, PSY 301, PSY 361, PSY 495) are also used in the Psychology Core of the proposed curriculum and have been inserted in the Foundations of Psychology, Research Methods and Statistics, or Capstone categories where appropriate. The Psychology Core is required for all concentrations; different options are available in the Concentration Courses for each concentration.

 **Current Program Proposed Program**

|  |  |
| --- | --- |
| ~~The extended major in psychology requires a minimum of 52 semester hours and leads to a Bachelor of Arts degree. No minor or second major is required. The extended major is especially appropriate for the student whose career objectives require a more comprehensive undergraduate psychology background. The extended~~ ~~major is designed for students who maintain a minimum 2.50 GPA both overall and in psychology. Requirements are: PSY 100, PSY 210, PSY 211, PSY 301, PSY 361, PSY 495). MATH 183 (recommended) or other mathematics course (excluding MATH 109) that satisfies the mathematics General Education requirement, and the indicated number of hours from each of the following categories:~~**Developmental ~~Psychology~~ 3 hours**~~PSY 321 – Child Developmental Psychology~~~~PSY 422 – Adolescent Psychology~~~~PSY 423 – Psychology of Adult Life and Aging~~**Learning~~/~~Cognition 3 hours**~~PSY 405~~ – Cognitive Psychology~~PSY 407 – Psychology of Language~~~~PSY 410~~ –Psychology of Learning**~~Social/Industrial-Organizational/Motivation 3 hours~~**PSY 350 – Social Psychology~~PSY 370 – Industrial/Organizational Psychology~~~~PSY 412 – Psychology of Motivation and Emotion~~**~~Personality/Abnormal Psychology 3 hours~~**PSY 440 – Abnormal Psychology~~PSY 450 – Psychology of Personality~~**~~Biopsychology~~ 3 hours**~~PSY 411 – Psych of Sensation and Perception~~~~PSY 480~~ – Behavioral Neuroscience**~~Field Experience/Independent Study~~ 3 hours**~~PSY 390 – Field Experience in Psychology~~PSY 490 – Research, Readings, or Special Projects in Psychology**~~Applied Psychology 3 hours~~**~~PSY 340 – Sport Psychology~~~~PSY 371 – The Psychology of Sales Behavior~~~~PSY 455 – Introduction to Clinical Practice of Psychology~~~~PSY 442 – Beginning Skills in Psychological Interviewing~~~~PSY 443 – Behavior Modification~~~~PSY 470 – Psychology and Law~~~~PSY 473 – Training in Business and Industry~~**~~Psychology~~ Electives: ~~15~~ hours** | **The major in Psychology requires a minimum of 37 credit hours and leads to a Bachelor of Science degree. A minor or second major is required. The program is designed for students who are interested in a science – oriented degree that will prepare them for graduate study in psychology or a related field (e.g., medical school, pharmacy, physical therapy) or for employment in jobs where strong quantitative and research skills are required.** **Students may choose from one of six thematic concentrations or they may design an individualized concentration that best fits their interests (subject to approval by their advisor).**  **For all concentrations, students will complete a required course of study totaling 37 credit hours that includes courses from the following program components: Foundations of Psychology 15 hours, Research Methods and Statistics 7 hours, Capstone 3 hours, and Concentration 12 hours.****Students must maintain a minimum 2.50 GPA both overall and in psychology. Either (1) MATH 116 and MATH 117, or (2) MATH 118 or higher is required; MATH 183 is recommended.****Psychology Core*****Foundations of Psychology*****PSYS** 100 Introductory Psychology*Developmental* ***Processes*** *3 hours***PSYS 220 Introduction to Lifespan Developmental Psychology***Learning* ***and*** *Cognition 3 hours***PSYS 333** Cognitive Psychology**PSYS 331** Psychology of Learning***Individual Differences and Social Processes 3 hours*****PSYS** 350 – Social Psychology**PSYS** 440 – Abnormal Psychology***Biological Bases of Behavior and Mental Processes*** *3 hours***PSYS 363** **Sensory and Perceptual Systems****PSYS 360** Behavioral Neuroscience***Research Methods and Statistics 7 hours*****PSYS** 210 Research Methods in Psychology**PSYS** 211 Research Methods in Psychology Laboratory**PSYS 313** Statistics in Psychology***Capstone 3 hours*****PSYS 481 History of Psychology****PSYS** 490 Research, Readings, or Special Projects in Psychology**Psychology Concentration** **Each of the six thematic concentrations requires 12 hours from a unique set of required and elective courses. Students who choose to design their own concentration should select 12 hours from courses not used to satisfy their Foundations of Psychology requirement or from concentration courses in any of the thematic concentrations.****Program Total: 37 credit hours****Psychology Concentrations*****Concentration in Applied Psychological Science*****The concentration in Applied Psychological Science focuses on how psychological science can be used to solve real-world problems in business, sports, or human engineering domains.*****Foundations of Psychology*****PSYS 100 Introductory Psychology*****Developmental Processes 3 hours******Learning and Cognition 3 hours*****PSYS 333 Cognitive Psychology is required.*****Individual Differences and Social Processes 3 hours*****PSYS 350 Social Psychology is required.*****Biological Bases of Behavior and Mental Processes 3 hours******Research Methods and Statistics 7 hours******Capstone 3 hours*** ***Concentration Courses 12 hours*****Required:****PSYS 413 Psychological Measurement****Electives:****PSYS 290 Supervised Study in Psychology****PSYS 360 Behavioral Neuroscience****PSYS 363 Sensory and Perceptual Systems****PSYS 370 Industrial-Organizational Psychology****PSYS 433 Judgment & Decision Making****PSYS 473 Training in Business and Industry****PSYS 481 History of Psychology****PSYS 490 Research, Readings, or Special Projects in Psychology****PSYS 499 Senior Seminar in Psychology (category-related topic)****PSY 340 Sport Psychology****PSY 355 Issues in Cross-Cultural Psychology****PSY 412 Motivation and Emotion****PSY 470 Psychology and Law****Program Total: 37 credit hours*****Concentration in Biobehavioral Psychology*****The concentration in Biobehavioral Psychology provides knowledge of the biological bases of behavior and thought*****Foundations of Psychology*****PSYS 100 Introductory Psychology*****Developmental Processes 3 hours******Learning and Cognition 3 hours*****PSYS 331 Psychology of Learning is required.*****Individual Differences and Social Processes 3 hours******Biological Bases of Behavior and Mental Processes 3 hours*****PSYS 360 Behavioral Neuroscience is required.*****Research Methods and Statistics 7 hours******Capstone 3 hours******Concentration Courses 12 hours*****Required:****PSYS 363 Sensory and Perceptual Systems****Electives:****PSYS 290 Supervised Study in Psychology** **PSYS 333 Cognitive Psychology****PSYS 431 Psychology of Language****PSYS 462 Neuroscience of Learning and Memory****PSYS 463 Evolutionary Psychology****PSYS 465 Psychopharmacology****PSYS 481 History of Psychology****PSYS 483 Psychology of Sexuality****PSYS 490 Research, Readings, or Special Projects in Psychology****PSYS 499 Senior Seminar in Psychology (category-related topic)****Program Total: 37 credit hours** ***Concentration in Clinical Psychological Science*****The concentration in Clinical Psychological Science focuses on mechanisms and etiologies of psychological health and dysfunction.*****Foundations of Psychology*****PSYS 100 Introductory Psychology*****Developmental Processes 3 hours******Learning and Cognition 3 hours******Individual Differences and Social Processes 3 hours*****PSYS 440 Abnormal Psychology is required.*****Biological Bases of Behavior and Mental Processes 3 hours******Research Methods and Statistics 7 hours******Capstone 3 hours******Concentration Courses 12 hours*****PSYS 290 Supervised Study in Psychology****PSYS 350 Social Psychology****PSYS 360 Behavioral Neuroscience****PSYS 413 Psychological Measurement****PSYS 450 Psychology of Personality****PSYS 451 Psychology of Religion****PSYS 453 Psychology of Women****PSYS 462 Neuroscience of Learning and Memory****PSYS 465 Psychopharmacology****PSYS 483 Psychology of Sexuality****PSYS 481 History of Psychology****PSYS 490 Research, Readings, or Special Projects in Psychology****PSYS 499 Senior Seminar in Psychology (category-related topic)****PSY 443 Behavior Modification** **Program Total: 37 credit hours*****Concentration in Cognitive Psychology*****The concentration in Cognitive Psychology concentration emphasizes the scientific study of mental processes such as attention, perception, memory, problem-solving, thinking, and language use.*****Foundations of Psychology*****PSYS 100 Introductory Psychology*****Developmental Processes 3 hours******Learning and Cognition 3 hours*****PSYS 333 Cognitive Psychology is required.*****Individual Differences and Social Processes 3 hours******Biological Bases of Behavior and Mental Processes 3 hours*** ***Research Methods and Statistics 7 hours*** ***Capstone 3 hours******Concentration Courses 12 hours*****PSYS 290 Supervised Study in Psychology****PSYS 331 Psychology of Learning****PSYS 363 Sensory and Perceptual Systems****PSYS 423 Psychology of Adult Life and Aging****PSYS 431 Psychology of Language****PSYS 433 Judgment & Decision Making****PSYS 462 Neuroscience of Learning and Memory****PSYS 481 History of Psychology****PSYS 490 Research, Readings, or Special Projects in Psychology****PSYS 499 Senior Seminar in Psychology (category-related topic)****PSY 412 Psychology of Motivation and Emotion****Program Total: 37 credit hours*****Concentration in Developmental Science*****The concentration in Developmental Science addresses the physical, emotional, intellectual, social, perceptual, and personality growth of humans throughout the lifespan.** ***Foundations of Psychology*****PSYS 100 Introductory Psychology*****Developmental Processes 3 hours******Learning and Cognition 3 hours******Individual Differences and Social Processes 3 hours******Biological Bases of Behavior and Mental Processes 3 hours******Research Methods and Statistics 7 hours******Capstone 3 hours******Concentration Courses 12 hours*****PSYS 290 Supervised Study in Psychology****PSYS 321 Child Developmental Psychology****PSYS 423 Psychology of Adult Life and Aging****PSYS 424 Topics in Developmental Psychology (may be repeated when topic changes)** **PSYS 431 Psychology of Language** **PSYS 483 Psychology of Sexuality****PSYS 481 History of Psychology****PSYS 490 Research, Readings, or Special Projects in Psychology****PSYS 499 Senior Seminar in Psychology (category-related topic)****PSY 422 Adolescent Psychology** **Program Total: 37 credit hours*****Concentration in Social Psychology*****The concentration in Social Psychology emphasizes the study of how social situations affect behavior.*****Foundations of Psychology*****PSYS 100 Introductory Psychology*****Developmental Processes 3 hours******Learning and Cognition 3 hours******Individual Differences and Social Processes 3 hours*****PSYS 350 Social Psychology is required.*****Biological Bases of Behavior and Mental Processes 3 hours******Research Methods and Statistics 7 hours******Capstone 3 hours******Concentration Courses 12 hours*****Required:****PSYS 413 Psychological Measurement****Electives:****PSYS 290 Supervised Study in Psychology****PSYS 433 Psychology of Judgment and Decision Making****PSYS 440 Abnormal Psychology****PSYS 450 Personality Psychology** **PSYS 451 Psychology of Religion****PSYS 453 Psychology of Women****PSYS 483 Psychology of Sexuality****PSYS 481 History of Psychology****PSYS 490 Research, Readings, or Special Projects in Psychology****PSYS 499 Senior Seminar in Psychology (category-related topic);****PSY 412 Motivation and Emotion****Program Total: 37 credit hours** |

**4. Rationale for the proposed program change:**

Overview:

On November 1, 2013 the Department of Psychological Sciences was created in Ogden College. The creation of this department is the culmination of several years of growth in the number of faculty actively engaged in the practice and teaching of basic and applied research in psychological science. This growth will allow WKU to meet the American Psychological Association (APA) Board of Educational Affairs’ newly published goals and objectives for the undergraduate psychology curriculum. More specifically, the proposed changes in the extended major program bring WKU’s undergraduate psychology curriculum into alignment with these national standards.

Specific changes as noted in Section 2:

2.1 The catalog description is changed to clearly describe the revised program.

2.2 Although the current program was originally designed to support a variety of career objectives, and especially those involving graduate study, it may instead reduce students’ options in this regard. This is because the extra hours in psychology do not encourage students to pursue a minor that might help them obtain a job or gain entry to a STEM-focused graduate program; e.g., neuroscience, medical school. The B.S. should be especially appealing to pre-med students because they will be able to apply the required 28 credit hours of natural and physical science to a minor or second major. This option would be unavailable with the current program because of the extra hours required.

2.3 & 2.4. The APA goals and objectives for the undergraduate curriculum emphasize psychology’s role as a STEM discipline. Therefore, it is appropriate to change the degree type from a Bachelor of Arts to a Bachelor of Science. The proposed changes are designed to clarify and enhance the science focus of Psychology in the new curriculum in a number of ways, including:

a. The addition of concentrations provides options for students who are interested in greater depth of knowledge in the basic science of psychology as well as options for students who are interested in more depth of knowledge in the application of psychological science to real-world problems.

b. New courses in Psychopharmacology and Neuroscience of Learning and Memory have been added to several concentrations in the new curriculum.

c. Students with a desire for additional research experience may choose laboratory research as their Capstone experience.

2.5 The renaming of the program core components provides better alignment with the four APA-defined content domains in psychology (developmental, cognition and learning, biological, and socio-cultural).

2.6 The Department of Psychological Sciences has a new course prefix and a new course numbering system that is reflected in the current proposal. Course titles have been updated and made more consistent with course content. These changes have been submitted separately as course revisions and are also summarized in an Addendum to this proposal.

2.7 New courses have been added to provide students with exposure to some of the most important recent advancements in the field (e.g., neuroscience, decision-making, and psychopharmacology) and older courses that are not taught or are not relevant to the proposed curriculum have been removed. New course proposals have been submitted separately and are also summarized in the Addendum to this proposal.

**5. Proposed term for implementation and special provisions (if applicable):** Fall 2014**.**

**6. Dates of prior committee approvals:**

Department of Psychological Sciences:  **January 27, 2014\_\_**

 OCSE Curriculum Committee \_\_**February 6, 2014** \_

 Undergraduate Curriculum Committee \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 University Senate \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Addendum

Proposals to revise course prefixes, numbers, and titles, establish equivalencies, and create new courses have been submitted separately. The following table summarizes these changes.

|  |  |
| --- | --- |
| **Original** | **New** |
| **Prefix** | **#** | **Course Title** | **Prefix** | **#** | **Course Title** |
| Psy | 100 | Introductory Psychology | Psy/Psys | 100 | Introductory Psychology |
| Psy | 210 | Research Methods in Psych | Psy/Psys | 210 | Research Methods in Psych |
| Psy | 211 | Research Methods in Psych Lab | Psy/Psys | 211 | Research Methods in Psych Lab |
| Psy | 199 | Intro Lifespan Devel Psych | Psy/Psys | 220 | Intro Lifespan Devel Psych |
| Psy | 290 | Supervised Study in Psych | Psy/Psys | 290 | Supervised Study in Psych |
| Psy | 301 | Statistics in Psych | Psy/Psys | 313 | Statistics in Psych |
| Psy | 321 | Child Devel Psych | Psys | 321 | Child Devel Psych |
| Psy | 345 | Psych of Sexuality | Psys | 483 | Psych of Sexuality |
| Psy | 350 | Social Psychology | Psy/Psys | 350 | Social Psychology |
| Psy | 361 | Psych Tests & Measurement | Psys | 413 | Psych Measurement |
| Psy | 370 | I/O Psych | Psys | 370 | I/O Psych |
| Psy | 405 | Cognitive Psychology | Psys | 333 | Cognitive Psychology |
| Psy | 407 | Psych of Language | Psys | 431 | Psych of Language |
| Psy | 410 | Psychology of Learning | Psy/Psys | 331 | Psych of Learning |
| Psy | 411 | Psych of Sens & Percept | Psys | 363 | Sens & Percep Systems |
| Psy | 422 | Adolescent Psych | Psys | 422 | Adolescent Psych |
| Psy | 423 | Psych Adult Life & Aging | Psys | 423 | Psych Adult Life & Aging |
| Psy | 430 | Psych of Women | Psys | 453 | Psych of Women |
| Psy | 440 | Abnormal Psychology | Psy/Psys | 440 | Abnormal Psychology |
| Psy | 450 | Psych of Personality | Psys | 450 | Psych of Personality |
| Psy | 480 | Behavioral Neuroscience | Psys | 360 | Behavioral Neuroscience |
| Psy | 483 | Evolutionary Psych | Psys | 463 | Evolutionary Psych |
| Pys | 485 | Psych of Religion | Psys | 451 | Psych of Religion |
| Psy | 490 | Readings/Research | Psy/Psys | 490 | Readings, Research |
| Psy | 495 | History & Systems in Psych | Psy/Psys | 481 | History of Psych |
| Psy | 499 | Senior Seminar | Psy/Psys | 490 | Senior Seminar |
|  |  |  | Psys | 433 | Judge & Decision Making |
|  |  |  | Psys | 462 | Neuro Learn Memory |
|  |  |  | Psys | 465 | Psychopharmacology |