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| For Academic Affairs and Research Use Only | |
| CIP Code: |  |
| Degree Code: |  |

**Course Revision Proposal Form**

**[] Undergraduate Curriculum Council**

**[X] Graduate Council**

Signed paper copies of proposals submitted for consideration are no longer required. Please type approver name and enter date of approval.

Email completed proposals to [curriculum@astate.edu](mailto:curriculum@astate.edu) for inclusion in curriculum committee agenda.

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| David F. Gilmore 2/21/2019 **Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **COPE Chair (if applicable)** |
| Travis D. Marsico 2/21/2019 **Department Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Head of Unit (If applicable)** |
| David F. Gilmore 2/22/2019 **College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Undergraduate Curriculum Council Chair** |
| Anne A. Grippo 2/22/2019 **College Dean** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Graduate Curriculum Committee Chair** |
| |  |  | | --- | --- | | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |   **General Education Committee Chair (If applicable)** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Vice Chancellor for Academic Affairs** |

1. Contact Person (Name, Email Address, Phone Number)

Dr. Lorin Neuman-Lee [lneumanlee@astate.edu](mailto:lneumanlee@astate.edu)

870-972-3111

2. Proposed Starting Term and Bulletin Year for Change to Take Effect

2019-2020, Fall

3. Current Course Prefix and Number

BIO 6353

3.1 – **[YES]** Request for Course Prefix and Number change

If yes, include new course Prefix and Number below. *(Confirm that number chosen has not been used before. For variable credit courses, indicate variable range. Proposed number for experimental course is 9. )*

BIO 5443

3.2 – YES If yes, has it been confirmed that this course number is available for use?

*If no: Contact Registrar’s Office for assistance.*

4. Current Course Title

Comparative Physiology

4.1 – **[YES]** Request for Course Title Change

If yes, include new Course Title Below.

Comparative Animal Physiology

1. If title is more than 30 characters (including spaces), provide short title to be used on transcripts. *Title cannot have any symbols (e.g. slash, colon, semi-colon, apostrophe, dash, and parenthesis).*

NA

1. Please indicate if this course will have variable titles (e.g. independent study, thesis, special topics).

NO

5. – **[YES ]** Request for Course Description Change.

If yes, please include brief course description (40 words or fewer) as it should appear in the bulletin.

Examination of physiological systems and processes across vertebrate and invertebrate groups. Broad topics include energetic relationships, integrating systems, reproduction, internal transport, and maintenance of internal balance.

6. – [YES] Request for prerequisites and major restrictions change.

*(If yes, indicate all prerequisites. If this course is restricted to a specific major, which major. If a student does not have the prerequisites or does not have the appropriate major, the student will not be allowed to register).*

1. **YES** Are there any prerequisites?
   1. If yes, which ones?

Add BIO 2013; Keep BIO 1301, BIO 1303, CHEM 1013 or equivalent coursework.

* 1. Why or why not?

Adding BIO 2013 (Biology of the Cell) to ensure basic understanding of cell biology before starting physiological course work

1. NO Is this course restricted to a specific major?
   1. If yes, which major? Enter text...

7. – [NA ] Request for Course Frequency Change(e.g. Fall, Spring, Summer). *Not applicable to Graduate courses.*

a. If yes, please indicate current and new frequency:

Enter text...

8. – [NO ] Request for Class Mode Change

*If yes, indicate if this course will be lecture only, lab only, lecture and lab, activity, dissertation, experiential learning, independent study, internship, performance, practicum, recitation, seminar, special problems, special topics, studio, student exchange, occupational learning credit, or course for fee purpose only (e.g. an exam)? Please* *indicate the current and choose one.*

Enter text...

9. – [NO ] Request for grade type change

*If yes, what is the current and the new grade type (i.e. standard letter, credit/no credit, pass/fail, no grade, developmental, or other [please elaborate])*

Enter text...

10. YES Is this course dual listed (undergraduate/graduate)?

a. If yes, indicate course prefix, number and title of dual listed course.

BIO 4443 Comparative Animal Physiology

11. NO Is this course cross listed?

*(If it is, all course entries must be identical including course descriptions. Submit appropriate documentation for requested changes. It is important to check the course description of an existing course when adding a new cross listed course.)*

**11.1** – If yes, please list the prefix and course number of cross listed course.

Enter text...

**11.2** – **Yes / No** Are these courses offered for equivalent credit?

Please explain. Enter text...

12. NO Is this course change in support of a new program?

a. If yes, what program?

Enter text...

13. YES Does this course replace a course being deleted?

a. If yes, what course?

BIO 6353 Comparative Physiology

14. YES Will this course be equivalent to a deleted course or the previous version of the course?

a. If yes, which course?

It will have the equivalent purpose as the previous comparative physiology course

15. NO Does this course affect another program?

If yes, provide confirmation of acceptance/approval of changes from the Dean, Department Head, and/or Program Director whose area this affects.

Enter text...

16. Does this course require course fees? No

*If yes: Please attach the New Program Tuition and Fees form, which is available from the UCC website.*

**Revision Details**

17. Please outline the proposed revisions to the course.

*Include information as to any changes to course outline, special features, required resources, or in academic rationale and goals for the course.*

The revised course will be offered as a graduate/undergraduate course requiring that the 6000 level course be decreased to a 5000- level course. The 3000 level undergraduate class will likewise be raised to a 4000 level because students will be further advanced in their degree and able to critically think and understand scientific literature. There will be more integrating of primary literature into this course than a 3000 level course, but less than a 6000 level course. There will also be more integration of creative aspects, such as artwork and oral communication to a broad audience. However, it will be less student-driven than a 6000 level course. A more student-driven course is now offered (Ecophysiology ) Graduate students will be expected to help lead discussions about each of the primary literature readings. All graduate students will have an additional assignment to complete that will be worth a test grade. For this course, graduate students will research and present information about techniques that are used in studying aspects of comparative physiology.

18. Please provide justification to the proposed changes to the course.

The dual-listed course is necessary because many graduate students (especially with wildlife backgrounds) have not had ample physiological courses to complete their degrees. This will give these students an opportunity to have a lecture-style course to learn the fundamentals of physiology.

19. NO Do these revisions result in a change to the assessment plan?

While these revisions should not demonstratively change the assessment plan, we have explicitly listed the assessment below.

*\*If yes: Please complete the Assessment section of the proposal on the next page.*

*\*If no: Skip to Bulletin Changes section of the proposal.*

***\*See question 19 before completing the Assessment portion of this proposal.***

**Assessment**

**Relationship with Current Program-Level Assessment Process**

22. What is/are the intended program-level learning outcome/s for students enrolled in this course? Where will this course fit into an already existing program assessment process?

23. Considering the indicated program-level learning outcome/s (from question #23), please fill out the following table to show how and where this course fits into the program’s continuous improvement assessment process.

*For further assistance, please see the ‘Expanded Instructions’ document available on the UCC - Forms website for guidance, or contact the Office of Assessment at 870-972-2989.*

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| **Program-Level Outcome 1 (from question #23)** |  |
| Assessment Measure |  |
| Assessment  Timetable |  |
| Who is responsible for assessing and reporting on the results? |  |

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| **Program-Level Outcome 1 (from question #23)** |  |
| Assessment Measure |  |
| Assessment  Timetable |  |
| Who is responsible for assessing and reporting on the results? |  |

*(Repeat if this new course will support additional program-level outcomes)*

**Course-Level Outcomes**

24. What are the course-level outcomes for students enrolled in this course and the associated assessment measures?

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| **Outcome 1** |  |
| Which learning activities are responsible for this outcome? |  |
| Assessment Measure |  |

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| **Outcome 2** |  |
| Which learning activities are responsible for this outcome? |  |
| Assessment Measure |  |

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| **Outcome 3** |  |
| Which learning activities are responsible for this outcome? |  |
| Assessment Measure |  |

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| **Outcome 4** |  |
| Which learning activities are responsible for this outcome? |  |
| Assessment Measure |  |

**Bulletin Changes**

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| **Instructions** |
| **Please visit** [**http://www.astate.edu/a/registrar/students/bulletins/index.dot**](http://www.astate.edu/a/registrar/students/bulletins/index.dot) **and select the most recent version of the bulletin. Copy and paste all bulletin pages this proposal affects below. Follow the following guidelines for indicating necessary changes.**  **\*Please note: Courses are often listed in multiple sections of the bulletin. To ensure that all affected sections have been located, please search the bulletin (ctrl+F) for the appropriate courses before submission of this form.**  - Deleted courses/credit hours should be marked with a red strike-through (~~red strikethrough~~)  - New credit hours and text changes should be listed in blue using enlarged font (blue using enlarged font).  - Any new courses should be listed in blue bold italics using enlarged font (***blue bold italics using enlarged font***)  *You can easily apply any of these changes by selecting the example text in the instructions above, double-clicking the ‘format painter’ icon 🡪 , and selecting the text you would like to apply the change to.*  *Please visit* [*https://youtu.be/yjdL2n4lZm4*](https://youtu.be/yjdL2n4lZm4) *for more detailed instructions.* |

BIO 5421. Laboratory for Ornithology Three hours per week. To be taken concurrently with BIO 5423. Special course fees may apply.

BIO 5423. Ornithology A study of the evolution, taxonomy, behavior, ecology, population biology, physiology, and conservation of birds. Lecture three hours per week. Prerequisites: BIO 1301, 1303.

BIO 5433. Field Experience in Marine Environments Hands-on experience with living and non-living components of marine environments. Emphasis on marine organisms and habitats but will incorporate human interactions associated with marine environments. Course is comprised of an intensive 10 day (10 hrs per day) field trip to an appropriate marine environment.

BIO 5441 Comparative Animal Physiology Laboratory Three hours per week. Special course fees may apply. To be taken concurrently with BIO 4443.

BIO 5443 Comparative Animal Physiology Examination of physiological systems and processes across vertebrate and invertebrate groups. Broad topics include energetic relationships, integrating systems, reproduction, internal transport, and maintenance of internal balance. Prerequisites, BIO 1301, BIO 1303, BIO 2013, CHEM 1021, and CHEM 1023

BIO 5444. Wildlife Population Modeling Introduction to population models, techniques to estimate demographic parameters (e.g., survival, breeding success). Statistical background recommended. Fall of even years. No pre-requisite although a statistical background such as Biological Data Analysis is recommended.

BIO 5511. Laboratory for Plant Physiology Three hours per week. To be taken concurrently with BIO 5513. Special course fees may apply.

BIO 5513. Plant Physiology General principles of conduction, cellular reactions, respiration, growth, photosynthesis, movement, hormones, and metabolism in plants. Lecture three hours per week. Prerequisites: BIO 1501, 1503; CHEM 3103, CHEM 3101.

BIO 5521. Laboratory for Wetlands Plant Ecology Two hours per week. To be taken concurrently with BIO 5522. Special course fees may apply.

BIO 5522. Wetlands Plant Ecology A study of plant responses to environmental factors during germination, growth, reproduction, and dormancy. Lecture two hours per week. Prerequisites: BIO 3123 or permission of professor or chair.

BIO 5541. Laboratory for Mycology Two hours per week. To be taken concurrently with BIO 5542. Special course fees may apply.

BIO 5542. Mycology Morphology, cytology, genetics, and physiology of fungi. Lecture two hours per week. Prerequisites: BIO 3012, 3022; CHEM 3103, CHEM 3101.

BIO 5551. Laboratory for Medical Mycology Two hours per week. To be taken concurrently with BIO 5552. Special course fees may apply.

BIO 5552. Medical Mycology A study of cutaneous, systemic, and opportunistic ~~fungus~~ fungal diseases ~~(mucoses)~~ (mycoses) of man and other animals. Lecture two hours per week. Prerequisites: ~~BOT~~ BIO 1501, 1503.

BIO 5601. Laboratory for Limnology Two hours per week. To be taken concurrently with BIO 5603. Special course fees may apply.

BIO 5603. Limnology Physicochemical conditions of fresh water, and their effects on aquatic life; plankton analysis and bottom fauna studies. Lecture three hours per week. Prerequisites: BIO 1301 , 1303; CHEM 1023, CHEM 1021.

BIO 5613. Conservation Biology A study of global and local biological resources, including the diversity of life, the value of biodiversity, the importance of diversity to humans and human cultures, and interdisciplinary strategies to conserve biological resources. Lecture three hours per week. Prerequisites: BIO 3023 or permission of professor.

BIO 5623. Environmental Microbiology A study of the physiology and diversity of microorganisms and their role in cycling of nutrients and mineralization of pollutants in the world. Prerequisites: CHEM 1023 and BIO 2103, or 4014, or 4133.

BIO 5611. Radiation Safety Theory and techniques for dealing with radiation and radioactive materials. Required for students wishing to use radioactive materials on campus. Prerequisite: Permission of professor.

BIO 6313. Medical and Veterinary Entomology A study of the taxonomy, biology and control of arthropods associated with human and animal diseases. Lecture three hours per week. Corequisite: BIO 6311.

BIO 6321. Laboratory for Insect Taxonomy Two hours per week. To be taken concurrently with BIO 6322. Special course fees may apply.

BIO 6322. Insect Taxonomy A survey of the orders and families of insects designed to familiarize the student with the use of taxonomic literature and keys. Lecture two hours per week. Prerequisites: BIO 3301 and 3303 or permission of professor.

BIO 6331. Laboratory for Comparative Ethology Two hours per week. To be taken concurrently with BIO 6312. Special course fees may apply.

BIO 6332. Comparative Ethology Description of the known behavioral adaptations of animals to their environments with emphasis on adaptive significance, including an introduction to objective analysis of behavior patterns. Lecture two hours per week. Prerequisites: BIO 1301,1303.

BIO 6342 . Natural History of the Vertebrates The study of the classification and natural history of vertebrates. Lecture two hours per week. Prerequisites: BIO 1301,1303.

BIO 6343. Cell & Molecular Neurobiology This course provides an understanding of how the nervous system functions on a molecular and cellular level through lectures and discussions of original scientific papers related to lecture topics. Three hours per week. Prerequisite: Course(s) in basic neurobiology or permission of instructor.

~~BIO 6351. Laboratory for Comparative Physiology Three hours per week. To be taken concurrently with BIO 6353. Special course fees may apply.~~

BIO 6352. Laboratory for Natural History of the Vertebrates Four hours per week. To be taken concurrently with BIO 6342. Special course fees may apply.

~~BIO 6353. Comparative Physiology Comparison of nutrition, water balance, excretion, transport mechanisms, temperature regulation, metabolism, reproduction and nervous coordination set in a phylogenic format. Emphasis would be on the evolution of animal processes in relation to the environment. Lecture three hours per week. Prerequisites: BIO 1301,1303.~~

BIO 6371. Practicum I Practicum in biology requires the completion of a minor project in the biological sciences as approved by the student’s advisory committee. To be completed by MA students as part of their core curriculum.

BIO 6372. Practicum II Practicum in biology requires the completion of a major project in the biological sciences as approved by the student’s advisory committee. To be completed by MA students as part of their core curriculum.

BIO 638V. Thesis BIO 6503. Mechanisms of Speciation A study of genetic, environmental and historical factors which modify all species with emphasis on the effects of mutation, selection, and ploidy upon plant genetic systems. Lecture three hours per week. Prerequisite: BIO 3013.