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

**New or Modified Course Proposal Form**

**[ ] Undergraduate Curriculum Council**

**[ X ] Graduate Council**

|  |
| --- |
| **[ ]New Course, [ ]Experimental Course (1-time offering), or [ X ]Modified Course (Check one box)** |

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

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| --- | --- |
| Virginie Rolland 10/25/2021 **Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **COPE Chair (if applicable)** |
| Stephen J. Mullin 10/25/2021 **Department Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Head of Unit (if applicable)** |
| John Hershberger 10/25/2021 Enter date…  **College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Undergraduate Curriculum Council Chair** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **Director of Assessment (new courses only)** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Graduate Curriculum Committee Chair** |
| Lynn Boyd 11/3/2021 **College Dean** | Alan Utter 11/29/2021  **Vice Chancellor for Academic Affairs** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **General Education Committee Chair (if applicable)** |  |

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

SJ Mullin; smullin@astate.edu; x3082

1. **Proposed starting term and Bulletin year for new course or modification to take effect**

Spring 2023 (print in AY22-23 Bulletin)

**Instructions:**

*Please complete all sections unless otherwise noted. For course modifications, sections with a “Modification requested?” prompt need not be completed if the answer is “No.”*

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|  | **Current (Course Modifications Only)** | **Proposed (New or Modified)**  *(Indicate “N/A” if no modification)* |
| **Prefix** | **BIO** | **BIO** |
| **Number\*** | **5411 (to be deleted)**  **5453 (to be deleted)** | **5454** |
| **Title** | **Laboratory for Herpetology**  **Herpetology** | **Herpetology** |
| **Description\*\*** | Herpetology Laboratory: Three hours per week. To be taken concurrently with BIO 5453. Special course fees may apply.  Herpetology: Examination of the biology amphibians and reptiles, with emphasis on evolutionary history, behavior, physiology, morphology, and ecology. Three hours per week. | BIO 5454. Herpetology. The biology of amphibians and reptiles, with emphasis on behavior, ecology, field identification, morphology, physiology, and phylogenetic relationships. Lecture three hours and lab three hours per week. Special course fees may apply. |

***\**** (Confirm with the Registrar’s Office that number chosen has not been used before and is available for use. For variable credit courses, indicate variable range. *Proposed number for experimental course is 9*. )

\*\*Forty words or fewer as it should appear in the Bulletin.

1. **Proposed prerequisites and major restrictions** **[Modification requested? Yes/No]**

(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. NO Are there any prerequisites?
   1. If yes, which ones?

Enter text...

* 1. Why or why not?

Prerequisites typically not required for graduate-level coursework.

1. NO Is this course restricted to a specific major? (available to BIO minors who have satisfied prerequisite requirements).
   1. If yes, which major? Enter text...
2. **Proposed course frequency [Modification requested? NO]**

(e.g. Fall, Spring, Summer; if irregularly offered, please indicate, “irregular.”) *Not applicable to Graduate courses.*

Spring

1. **Proposed course type [Modification requested? YES]**

Will this course be lecture only, lab only, lecture and lab, activity (e.g., physical education), dissertation/thesis, capstone, independent study, internship/practicum, seminar, special topics, or studio? Please choose one.

Lecture and lab

1. **Proposed grade type [Modification requested? NO]**

What is the grade type (i.e. standard letter, credit/no credit, pass/fail, no grade, developmental, or other [please elaborate])

Standard letter

1. YES Is this course dual-listed (undergraduate/graduate)?
2. 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.)*

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

Enter text...

**b.** – **Yes / No** Can the cross-listed course be used to satisfy the prerequisite or degree requirements this course satisfies?

Enter text...

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

a. If yes, what program?

Enter text...

1. NO Will this course be a one-to-one equivalent to a deleted course or previous version of this course (please check with the Registrar if unsure)? \

a. If yes, which course?

**Course Details**

1. **Proposed outline** **[Modification requested? YES]**

(The course outline should be topical by weeks and should be sufficient in detail to allow for judgment of the content of the course.)

**Herpetology**

Lecture Schedule

Week Topic

1 Introduction; Herpetology’s “occupation” within biology

Phylogeny and biogeography of amphibians

2 Amphibian functional morphology

3 Amphibian physiology and energetics

1st lecture exam

4 Amphibian life-history traits & adaptations

5 Amphibian life-histories & reproduction

6 Amphibian ecology

2nd lecture exam

7 Topic paper presentations

Phylogeny and biogeography of reptiles

8 Reptilian functional morphology

9 Reptilian physiology and energetics

10 3rd lecture exam

Reptilian life-history traits & adaptation

11 Reptilian life-histories & reproduction

12 Reptilian ecology

13 4th lecture exam

Researching herpetofaunal communities

14 Conservation biology of herpetofauna

15 Content review

Final Exam

Field/Laboratory Schedule

Week Subject matter

1 Introduction; discussion of term projects & field trips/herpin’ gear.

2 Caudata & Gymnophiona

3 Anura

4 Lab practical #1

5 Testudines

6 Lacertilia

7 Early Spring Field Trip

8 Lab practical #2

9 Serpentes

10 Mid-Spring Field Trip

11 Crocodylia, Rhynchocephalia, & Amphisbaenia (+ outreach prep.)

12 Spring Field Trip

13 Lab practical #3

14 Field trip

15 Outreach Event

1. **Proposed special features** **[Modification requested? NO]**

(e.g. labs, exhibits, site visitations, etc.)

Enter text...

1. **Department staffing and classroom/lab resources**

Course taught by Gustafson, Mullin or Neuman-Lee, depending on their regular course rotations, and curricular demand.

1. Will this require additional faculty, supplies, etc.?

Specimens on loan from the vertebrate collections maintained in the dept.

1. YES Does this course require course fees?

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

**Justification**

**Modification Justification (Course Modifications Only)**

1. Justification for Modification(s)

This proposal combines the lecture and lab into a 4-credit course with a single grade (the existing, separate sections of lecture and lab are to be deleted upon approval of this modification request). Lecture and lab content are complementary, with the student learning material in one portion of the course that reinforces terminology and concepts that are presented in the other portion of the course. As a result, students successfully completing the revised course will be better prepared for post-graduate opportunities such as an academic career or employment at an agency or non-profit conservation organization.

FEE justification: (A) The course fee has not been changed in over 5 years, and inflationary increases in commodities have resulted in higher costs to deliver the course. (B) The modification of the course to combine the lecture and lab sections will allow for a restructuring of the meeting times to allow for extended field trips. Those trips require use of vehicles in the dept. fleet, so the higher course fee will also be used to help offset the costs of vehicle maintenance.

SUMMARY of proposed changes:

* Combine lecture (3 SCH) and lab (1 SCH) sections into a single course (4 SCH)
* Increase course/lab fee to $35
* Parallel changes to undergrad. version of course (BIO 4454).

**New Course Justification (New Courses Only)**

1. Justification for course. Must include:

a. Academic rationale and goals for the course (skills or level of knowledge students can be expected to attain)

Enter text...

b. How does the course fit with the mission of the department? If course is mandated by an accrediting or certifying agency, include the directive.

Enter text...

c. Student population served.

Enter text...

d. Rationale for the level of the course (lower, upper, or graduate).

Enter text...

**Assessment**

**Assessment Plan Modifications (Course Modifications Only)**

1. NO Do the proposed modifications result in a change to the assessment plan?

*If yes, please complete the Assessment section of the proposal*

**Relationship with Current Program-Level Assessment Process (Course modifications skip this section unless the answer to #18 is “Yes”)**

1. 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?

Enter text...

1. Considering the indicated program-level learning outcome/s (from question #19), 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 #19)** | Type outcome here. What do you want students to think, know, or do when they have completed the course? |
| Assessment Measure | Please include direct and indirect assessment measure for outcome. |
| Assessment  Timetable | What semesters, and how often, is the outcome assessed? |
| Who is responsible for assessing and reporting on the results? | Who (person, position title, or internal committee) is responsible for assessing, evaluating, and analyzing results, and developing action plans? |

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

**Course-Level Outcomes**

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

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| **Outcome 1** | Type outcome here. What do you want students to think, know, or do when they have completed the course? |
| Which learning activities are responsible for this outcome? | List learning activities. |
| Assessment Measure | What will be your assessment measure for this outcome? |

*(Repeat if needed for additional outcomes)*

**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. Please include a before (with changed areas highlighted) and after of all affected sections.**  **\*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.** |

CURRENT VERSION (pg. 415):

**BIO 5332. Animal Histology** Microscopic survey of cells and tissues of vertebrate organ systems. This is a pre-existing undergraduate course (BIO 4332). The graduate version will require grad students to investigate selected methods/topics beyond what is expected of undergrads. No prerequisites.

**BIO 5333. Marine Biology** Overview of the diverse discipline of marine biology. Emphasis on life history but will incorporate aspects of chemistry, microbiology, and ecology of marine systems. Also included: marine fisheries, conservation biology, aquaculture, pharmacology, resource management, and public policy.

**BIO 5341. Laboratory for Animal Embryology** Two hours per week. To be taken concurrently with BIO 5343.

**BIO 5342. Laboratory for Animal Histology** Four hours per week. To be taken concurrently with BIO 5332.

**BIO 5343. Animal Embryology** Study of reproduction and development in animals, including reproductive systems, gamete formation, fertilization, early cleavage, formation of germ layers, and development of the organ systems. Lecture three hours per week.

**BIO 5354. Mammalogy** Evolution, phylogenetics, biogeography, structure, ecology, taxonomy, and field techniques of mammals. Special course fees may apply. Lecture three hours and lab three hours per week.

**BIO 5361. Laboratory for Mammalian Neurobiology** Two hours per week. To be taken concurrently with BIO 5363. Special course fees may apply.

**BIO 5362. Applied Aquaculture** Field course in which principles are applied within several aquaculture business settings. Intended for the student interested in wildlife and fisheries biology. Prerequisites, BIO 4311 AND 4312.

**BIO 5363. Mammalian Neurobiology** A detailed study of the mammalian nervous system with particular emphasis on morphological aspects. Lecture three hours per week. Prerequisites, BIO 1301, 1303, 2201, 2203 or permission of professor.

**BIO 5371. Laboratory for Animal Ecology** Two hours per week. To be taken concurrently with BIO 5373. Special course fees may apply.

**BIO 5372. Applied Fisheries** Field course in which principles are applied within several fisheries management settings. Intended for the Wildlife Ecology and Management major. Special course fees may apply. Prerequisite, BIO 4311.

**BIO 5373. Animal Ecology** A study of the distribution, abundance, population dynamics, behavior, and interactions of animals. Lecture three hours per week. Prerequisites, BIO 3023.

**BIO 5384. Parasitology** Evolution, life cycles, pathology, treatment and identification of biomedically important vertebrate parasites. Special course fees may apply. Lecture three hours and lab three hours per week.

**BIO 5453. Herpetology** Examination of the biology amphibians and reptiles, with emphasis on evolutionary history, behavior, physiology, morphology, and ecology. Three hours per week.

**BIO 5401. Laboratory for Ichthyology** Two hours per week. To be taken concurrently with BIO 5402. Special course fees may apply.

**BIO 5402. Ichthyology** The taxonomy, distribution, natural history, and economic importance of fishes, with emphasis on Arkansas species. Lecture two hours per week. Prerequisites, BIO 1301, 1303.

**BIO 5403. Comparative Vertebrate Reproduction** This combined lecture/lab course surveys major events in the vertebrate reproductive cycles and patterns. Prerequisites BIO 3231 and 3233 or 3323, or instructor permission.

REVISED VERSION:

**BIO 5332. Animal Histology** Microscopic survey of cells and tissues of vertebrate organ systems. This is a pre-existing undergraduate course (BIO 4332). The graduate version will require grad students to investigate selected methods/topics beyond what is expected of undergrads. No prerequisites.

**BIO 5333. Marine Biology** Overview of the diverse discipline of marine biology. Emphasis on life history but will incorporate aspects of chemistry, microbiology, and ecology of marine systems. Also included: marine fisheries, conservation biology, aquaculture, pharmacology, resource management, and public policy.

**BIO 5341. Laboratory for Animal Embryology** Two hours per week. To be taken concurrently with BIO 5343.

**BIO 5342. Laboratory for Animal Histology** Four hours per week. To be taken concurrently with BIO 5332.

**BIO 5343. Animal Embryology** Study of reproduction and development in animals, including reproductive systems, gamete formation, fertilization, early cleavage, formation of germ layers, and development of the organ systems. Lecture three hours per week.

**BIO 5354. Mammalogy** Evolution, phylogenetics, biogeography, structure, ecology, taxonomy, and field techniques of mammals. Special course fees may apply. Lecture three hours and lab three hours per week.

**BIO 5361. Laboratory for Mammalian Neurobiology** Two hours per week. To be taken concurrently with BIO 5363. Special course fees may apply.

**BIO 5362. Applied Aquaculture** Field course in which principles are applied within several aquaculture business settings. Intended for the student interested in wildlife and fisheries biology. Prerequisites, BIO 4311 AND 4312.

**BIO 5363. Mammalian Neurobiology** A detailed study of the mammalian nervous system with particular emphasis on morphological aspects. Lecture three hours per week. Prerequisites, BIO 1301, 1303, 2201, 2203 or permission of professor.

**BIO 5371. Laboratory for Animal Ecology** Two hours per week. To be taken concurrently with BIO 5373. Special course fees may apply.

**BIO 5372. Applied Fisheries** Field course in which principles are applied within several fisheries management settings. Intended for the Wildlife Ecology and Management major. Special course fees may apply. Prerequisite, BIO 4311.

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**BIO 5454. Herpetology** The biology of amphibians and reptiles, with emphasis on behavior, ecology, field identification, morphology, physiology, and phylogenetic relationships. Lecture three hours and lab three hours per week. Special course fees may apply.

**BIO 5401. Laboratory for Ichthyology** Two hours per week. To be taken concurrently with BIO 5402. Special course fees may apply.

**BIO 5402. Ichthyology** The taxonomy, distribution, natural history, and economic importance of fishes, with emphasis on Arkansas species. Lecture two hours per week. Prerequisites, BIO 1301, 1303.

**BIO 5403. Comparative Vertebrate Reproduction** This combined lecture/lab course surveys major events in the vertebrate reproductive cycles and patterns. Prerequisites BIO 3231 and 3233 or 3323, or instructor permission.

CURRENT VERSION (pg. 416):

**BIO 5411. Laboratory for Herpetology** Three hours per week. To be taken concurrently with BIO 5453. Special course fees may apply.

**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 5443.

**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 fungal diseases (mycoses) of man and other animals. Lecture two hours per week. Prerequisites, 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 5611. Radiation in Our World** Introduction to the biological effects and physics of radiation and radioactivity, radiation in our environment and society, and the interactions of radiation with organisms. Prerequisite, instructor permission. Fall, Spring

REVISED VERSION: