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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**

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| **[X]New Course, [ ]Experimental Course (1-time offering), or [ ]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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| David F. Gilmore 1/2/2021 **Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **COPE Chair (if applicable)** |
| Stephen J. Mullin 2/2/2021 **Department Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Head of Unit (if applicable)** |
| John Hershberger 2/9/2021  **College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Undergraduate Curriculum Council Chair** |
| Mary Elizabeth Spence 2/9/2021 **Office of Assessment (new courses only)** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Graduate Curriculum Committee Chair** |
| Lynn Boyd 2/12/2021 **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)**

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

870-972-3111

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

2020-2021, Spring

**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** |
| **Number\*** |  | **5383** |
| **Title** |  | Vertebrate Endocrinology |
| **Description\*\*** |  | Examination of the vertebrate endocrine and neuroendocrine processes at various levels (molecular to organismal) with a focus on comparative endocrinology. Topics will include synthesis, transport, mechanisms of action and regulation, and dysfunctions of endocrine control. |

***\**** (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...Why or why not?

Enter text...

1. NO Is this course restricted to a specific major?
   1. If yes, which major? Enter text...
2. **Proposed course frequency [Modification requested? Yes/No]**

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

Enter text...

1. **Proposed course type [Modification requested? Yes/No]**

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 only

1. **Proposed grade type [Modification requested? Yes/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?

Enter text...

**Course Details**

1. **Proposed outline** **[Modification requested? Yes/No]**

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

**Week 1:** Introduction

**Week 2:** Synthesis, Metabolism, and Action of Hormones

**Week 3:** Hypothalamus and Pituitary Gland

**Week 4:** Thyroid Action

**Week 5:** Adrenal Action (Cortex)

**Week 6:** Adrenal Action (Medulla)

**Week 7:** Gonadal Action

**Week 8:** Gonadal Action

**Week 9:** Immunity and Endocrinology

**Week 10:** Feeding, Digestion, and Metabolism

**Week 11:** Calcium and Phosphate Homeostasis

**Week 12:** Endocrine Disruption

**Week 13:** Integrating endocrine responses

**Week 14:** Integrating endocrine responses

**Week 15:** Endocrine diseases and therapies

1. **Proposed special features** **[Modification requested? Yes/No]**

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

No

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

Enter text...

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

NO

1. NO 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)

Enter text...

**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)

This course would have the following objectives which cannot be fully obtained through any other course: 1) Firm understanding of basic cellular processes and signaling that control the endocrine system 2) Appreciation for the processes controlled and affected by the endocrine system 3) Recognition of the endocrine organs, tissues, cells, and hormones in vertebrate systems 4) Comprehend the influences that control the endocrine system and the impacts when the endocrine system does not function properly

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.

The stated career path for this major is as follows: “The MS Biology Program prepares students for a variety of careers in government, academia and research.” This course directly helps students prepare for careers in all three fields.

c. Student population served.

Graduate students in the EVS, MBS, BIO, and Agriculture fields would benefit from this course

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

Graduate students in this dual-listed course will be required to lead a discussion on endocrinological techniques in addition to the regular course work.

**Assessment**

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

1. **Yes / 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?

* Students will be able to understand that science is a process as well as a body of knowledge
* Students will be able to acquire the skills and knowledge needed for employment or advanced graduate study in discipline related areas.

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 #23)** | * Students will be able to understand that science is a process as well as a body of knowledge |
| Assessment Measure | Master of Science: Successful defense of thesis/dissertation  Master of Arts: Successful completion of practicum II  Master of Science Education: Successful completion of program |
| Assessment  Timetable | Final Semester of degree |
| Who is responsible for assessing and reporting on the results? | The student’s committee and department chair are responsible for assessing this outcome. |

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| **Program-Level Outcome 1 (from question #23)** | * Students will be able to acquire the skills and knowledge needed for employment or advanced graduate study in discipline related areas. |
| Assessment Measure | Master of Science: Successful defense of thesis/dissertation  Master of Arts: Successful completion of practicum II  Master of Science Education: Successful completion of program |
| Assessment  Timetable | Final Semester of degree |
| Who is responsible for assessing and reporting on the results? | The student’s committee and department chair are responsible for assessing this outcome. |

*(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** | Firm understanding of basic cellular processes and signaling that control the endocrine system |
| Which learning activities are responsible for this outcome? | Lectures, in-class discussion, and final project of the integrative endocrine system |
| Assessment Measure | Rubric to score course evaluations (Exams and A final project: Integrated Endocrine Models) |

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| **Outcome 2** | Appreciation for the processes controlled and affected by the endocrine system |
| Which learning activities are responsible for this outcome? | Lectures, in-class discussion, and final project of the integrative endocrine system |
| Assessment Measure | Rubric to score course evaluations (Exams and A final project: Integrated Endocrine Models) |

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| **Outcome 3** | Recognition of the endocrine organs, tissues, cells, and hormones in vertebrate systems |
| Which learning activities are responsible for this outcome? | Lectures, in-class discussion, and final project of the integrative endocrine system |
| Assessment Measure | Rubric to score course evaluations (Exams and A final project: Integrated Endocrine Models) |

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| **Outcome 4** | Comprehend the influences that control the endocrine system and the impacts when the endocrine system does not function properly |
| Which learning activities are responsible for this outcome? | Lectures, in-class discussion, and final project of the integrative endocrine system |
| Assessment Measure | Rubric to score course evaluations (Exams and A final project: Integrated Endocrine Models) |

**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.** |

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 5351. Laboratory for Mammalogy Three hours per week. To be taken concurrently with BIO 5352. Special course fees may apply.

BIO 5352. Mammalogy Classification, distribution, structure, ecology, adaptations, and economic importance of mammals. Lecture two hours per week. Prerequisites: BIO 1301,1303.

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 5382. Parasitology The parasites of vertebrates and plants with emphasis on protozoan and helminth parasites of man and domestic animals. Lecture two hours per week. Prerequisites: BIO 1301, 1303.

***BIO 5383. Vertebrate Endocrinology***

***Examination of the vertebrate endocrine and neuroendocrine processes at various levels (molecular to organismal) with a focus on comparative endocrinology. Topics will include synthesis, transport, mechanisms of action and regulation, and dysfunctions of endocrine control. Spring, even.***

BIO 5392. Laboratory for Parasitology Four hours per week. To be taken concurrently with BIO 5382. 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 permission of the instructor.

BIO 5411. Laboratory for Herpetology Two hours per week. To be taken concurrently with BIO 5412. Special course fees may apply.

BIO 5412. Herpetology Collection, identification, classification, distribution, economic importance, and life histories of amphibians and reptiles, with emphasis on Arkansas species. Lecture two hours per week. Prerequisites: BIO 1301, 1303.