Code # Enter text…

**New Course Proposal Form**

**[X] Undergraduate Curriculum Council**

**[ ] Graduate Council**

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

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 4/6/2017 **Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **COPE Chair (if applicable)** |
| Thomas Risch 4/11/2017 **Department Chair:** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Head of Unit (If applicable)** |
| David F. Gilmore 4/11/2017 **College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Undergraduate Curriculum Council Chair** |
| John M. Pratte 4/11/2017 **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)

Travis Marsico; [tmarsico@astate.edu](mailto:tmarsico@astate.edu); 870-680-8191

2. Proposed Starting Term and Bulletin Year

Fall 2017; 2017 – 2018 Bulletin

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

BIO 4813

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

Curation of Collections

5. Brief course description (40 words or fewer) as it should appear in the bulletin.

Current, appropriate museum-quality specimen curation for a range of taxa including the collection and preservation of specimens of vascular plants, fungi, mussels, fish, reptiles and amphibians, and mammals.

6. Prerequisites and major restrictions. (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. Are there any prerequisites? Yes
   1. If yes, which ones?

BIO 1301 and 1303 (Biology of Animals Lab and Biology of Animals); BIO 1501 and 1503 (Biology of Plants Lab and Biology of Plants) or with the instructor’s permission

* 1. Why or why not?

The introduction portion of this course requires prior knowledge of plant and animal biology in order to complete the desired course outcomes and learning objectives.

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

7. Course frequency(e.g. Fall, Spring, Summer). *Not applicable to Graduate courses.*

Fall odd semesters

8. Will this course 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 choose one.

Lecture and activity…there are elements of introducing topics through lecture and discussion, but in this course there are also hands-on components of working in the natural history collections of the Arkansas Center for Biodiversity Collections.

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

Standard letter

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

Yes

11. Is this course cross listed? (If it is, all course entries must be identical including course descriptions. It is important to check the course description of an existing course when adding a new cross listed course.)

No

1. If yes, please list the prefix and course number of cross listed course.

Enter text...

1. Are these courses offered for equivalent credit? Yes / No

Please explain. Enter text...

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

a. If yes, what program?

Enter text...

13. Does this course replace a course being deleted? No

a. If yes, what course?

Enter text...

14. Will this course be equivalent to a deleted course? No

a. If yes, which course?

Enter text...

15. Has it been confirmed that this course number is available for use? Yes

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

16. Does this course affect another program? No

If yes, provide contact information from the Dean, Department Head, and/or Program Director whose area this affects.

Enter text...

**Course Details**

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

DATE LECTURE TOPIC

WEEK 1 INTRODUCTION TO PURPOSE AND SCOPE OF BIOLOGICAL COLLECTIONS AND SPECIMEN CURATION

WEEK 2 RULES OF ENGAGEMENT FOR VASCULAR PLANT SPECIMEN COLLECTION AND CURATION

WEEK 3 MAKING DATA AVAILABLE FROM COLLECTIONS

WEEK 4 MUSSEL AND FISHES COLLECTIONS

WEEK 5 INSECT COLLECTIONS

WEEK 6 AQUATIC INVERTEBRATE COLLECTIONS

WEEK 7 FISHES/PAPER

WEEK 8 HERPETOLOGICAL COLLECTIONS

WEEK 9 RUNNING A MUSEUM

WEEK 10 ALGAL COLLECTIONS

WEEK 11 MAMMAL AND AVIAN COLLECTIONS

WEEK 12 NO CLASS

WEEK 13 WRAP-UP DISCUSSION

WEEK 14 THANKSGIVING BREAK

WEEK 15 FINAL PAPERS DUE BY 11:59 PM CDT

18. Special features (e.g. labs, exhibits, site visitations, etc.)

This course includes guest lectures from A-State biologists and museum staff to provide expertise and insight into each collections topic.

19. Department staffing and classroom/lab resources

A regular classroom and resources associated with the Arkansas Center for Biodiversity Collections will be used.

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

No.

20. 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.*

**Course Justification**

21. Justification for course being included in program. Must include:

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

This course may be used to fulfill three hours of elective requirements for students in Bachelor of Science in Biology and Wildlife, Fisheries, and Conservation majors. Also, field biologists of all types (and other types of science majors, too) might benefit from knowing about biodiversity collections. Goals for the course include understanding of museum curation techniques, understanding how to gather remote biological collections data, collecting and labeling proper herbarium specimens, protecting specimens for long-term preservation, archiving collections and making data available to the scientific community and the public.

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

This course enhances the mission established by the Department of Biological Sciences which “offers a curriculum in biological sciences emphasizing acquisition of knowledge through integration of theory with practical laboratory and field studies; provides opportunities to develop critical scientific reasoning, communication skills and the appropriate use of technology; and extends our skills and facilities in service to the public as well as to the scientific community.” This course supports the biological sciences department’s pillars of understanding evolution, adaptation, diversity, structure, and function by teaching students the skills of making and managing diverse biological collections. Fundamental textbook knowledge in all the above listed biological sub-fields has been discovered using biological collections, and a course that addresses the techniques used in specimen curation is an important course for students interested in basic biology and natural history. Providing skills-based training for students will prepare them for the natural history museum workforce, and skills learned in this course (e.g., attention to detail, database management, recordkeeping) are essential to being a successful biologist irrespective of their area of specialization. This course will serve as an upper-level elective for students in the Department of Biological Sciences.

c. Student population served.

This course will primarily serve undergraduate students in biological sciences and wildlife, fisheries, and conservation. This course is designed to teach students how to effectively and appropriately collect and preserve biological vouchers. Therefore, the course has components of what would traditionally be considered academic and practical pursuits.

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

This course covers material that requires a high level of skill and specialization in biodiversity. Therefore, it is designated as an upper-level undergraduate course. In addition, this course will enhance options for undergraduate students interested in systematics and wildlife management careers or graduate studies.

**Assessment**

**University Outcomes**

22. Please indicate the university-level student learning outcomes for which this new course will contribute. Check all that apply.

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| * 1. **[X ]** Global Awareness | * 1. **[X ]** Thinking Critically | * 1. **[X ]** Information Literacy |

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

23. 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?

The program-level learning outcome for the course is: Students will be able to identify diversity as a result of evolutionary and adaptive mechanisms while recognizing the underlying genetic principles and mechanisms in these processes. Because natural history collections are the way that scientists document Earth’s biological diversity outcomes, scientists who work in these collections are concerned with understanding the evolutionary processes that resulted in those outcomes. Moreover, tissue collections for genetic research are becoming more commonplace in natural history collections, and this course will investigate maintenance of these types of collections used to answer questions about the evolutionary mechanisms in producing biodiversity on Earth. This course will reinforce this program-level outcome, and add to assessment reporting for this outcome. See response below to question #24 for assessment process details.

24. 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)** | Students will be able to identify diversity as a result of evolutionary and adaptive mechanisms while recognizing the underlying genetic principles and mechanisms in these processes. |
| Assessment Measure | Exam questions; the benchmark for the department is that 70% of students will score at least 70% on the exam(s). |
| Assessment  Timetable | This program-level outcome will be assessed each time the course is taught and will begin in Fall 2017. |
| Who is responsible for assessing and reporting on the results? | The instructor will assess the outcome and report the results to the Department Assessment Committee Chair. |

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

**Course-Level Outcomes**

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

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| **Outcome 1** | Compare museum curation techniques. |
| Which learning activities are responsible for this outcome? | Reading and lecture material and hands on activities in the collections. |
| Assessment Measure | Participation in weekly discussions based upon presentations from museum curators/directors and assigned readings of relevant peer-reviewed literature |
| **Outcome 2** | Construct and evaluate plans for curation of specimen collections. |
| Which learning activities are responsible for this outcome? | Reading and lecture material and team project |
| Assessment Measure | Writing a curation standard operating procedure (SOP) for a taxonomic group most interesting to the student. |

**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 4641. Environmental Biology Laboratory** Field and laboratory exposure to ecological, economic and sociological aspects of management of water, soil and air resources. Content will vary based on current topics of importance in the field of environmental science. Laboratory three hours per week. Prerequisites, BIO 3023 or BIO 4373, BIO 4633 or permission of instructor. To be taken concurrently with BIO 4643. Special course fees may apply. Fall, odd.   
  
**BIO 4643. Environmental Biology** Exposure to ecological, economic and sociological aspects of management of water, soil and air resources. Content will vary based on current topics of importance in the field of environmental biology. Lecture three hours per week. Special course fees may apply. Prerequisites, BIO 3023 or BIO 4373, BIO 4633, or permission of instructor. Fall, odd.   
  
**BIO 4651. Wildlife Management Laboratory** Two hours per week. Special course fees may apply. To be taken concurrently with BIO 4653. Fall, even.   
  
**BIO 4653. Wildlife Management** The ecology and management of wildlife species and their environment, with emphasis on fish, waterfowl, upland game birds, and mammals. Lecture three hours per week. Special course fees may apply. Prerequisites, BIO 1301 and BIO 1303. Fall, even.   
  
**BIO 4661. Wildlife Management Investigational Techniques Laboratory** Three hours per week. Special course fees may apply. To be taken concurrently with BIO 4661. Spring, odd.   
  
**BIO 4663. Wildlife Management Investigational** Techniques Identification of wildlife problems, project design, interpretation and construction of wildlife maps, food habit and census techniques, wildlife populations and habitat analyses, predictive population dynamics, and introduction to modeling and wildlife decision making procedures. Lecture three hours per week. Special course fees may apply. Prerequisites, BIO 1301 and BIO 1303. Spring, odd.   
  
**BIO 4704. Plant Systematics** A study of the systematics, nomenclature, morphology, and identification terminology for vascular plants with an emphasis on dichotomous key-based identification of flowering plants of Arkansas. Special course fees may apply. Prerequisites, BIO 1501 and BIO 1503. Spring.   
  
**BIO 4714. Dendrology** A study of the systematics, nomenclature, morphology, phenology, geographic range, and natural history of woody plants with an emphasis on field recognition throughout the year. Dual listed with BIO 5714. Special course fees may apply. Prerequisites, BIO 1501 and BIO 1503. Fall, even.

***BIO 4813. Curation of Collections*** *Current, appropriate museum-quality specimen curation for a range of taxa including the collection and preservation of specimens of vascular plants, fungi, mussels, fish, reptiles and amphibians, and mammals. Dual listed with BIO 5813. Prerequisites, BIO 1301, BIO 1303, BIO 1501 and BIO 1503 or with the instructor’s permission. Fall, odd.*

**Biology (BIOL)**   
  
**BIOL 1001. Biological Science Laboratory** Two hours per week. It is recommended this course be taken concurrently with BIOL 1003. Special course fees may apply. Fall, Spring, Summer. (ACTS#: BIOL 1004, BIOL 1024)   
  
**BIOL 1003. Biological Science** The major characteristics and processes of life emphasizing the human organism. Promotes understanding of diversity and unity among living organisms with focus on ecological interactions and responsibilities of people within their social and natural environment. Lecture three hours per week. Special course fees may apply. It is recommended that this course be taken concurrently with BIOL 1001. Fall, Spring, Summer. (ACTS#: BIOL 1004)   
  
**BIOL 1033. Biology of Sex** Biological basis of sex and reproduction with an emphasis on humans. Course will provide students with a basic functional understanding of human systems, which will lead to informed decisions regarding sexual and reproductive health. Lecture three hours per week. Special course fees may apply. Prerequisite, None. It is recommended this course be taken concurrently with BIOL 1001. Spring.   
  
**BIOL 1063. People and the Environment** Major environmental issues facing our society will be covered to equip students to become part of the solution to many environmental challenges confronting us this century. Lecture three hours per week. It is recommended this course be taken concurrently with BIOL 1001. Special course fees may apply. Fall, Spring.