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

**Course Revision Proposal Form**

**[x ] Undergraduate Curriculum Council**

**[ ] 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 for inclusion in curriculum committee agenda.

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| David Gilmore 9/11/2018**Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**COPE Chair (if applicable)** |
| Travis D. Marsico 9/11/2018**Department Chair:**  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**Head of Unit (If applicable)**   |
| David Gilmore 9/11/2018**College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**Undergraduate Curriculum Council Chair** |
| Anne Grippo 9/12/2018**College Dean** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**Graduate Curriculum Committee Chair** |
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| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | Enter date |

**General Education Committee Chair (If applicable)**   | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…**Vice Chancellor for Academic Affairs** |

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

David Gilmore, dgilmore@astate.edu, 972-3263

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

Spring 2019

3. Current Course Prefix and Number

BIO 4611

3.1 – **[No]** 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. )*

 Enter text...

3.2 – **Yes / No** 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

Radiation Safety

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

 If yes, include new Course Title Below.

 Radiation in Our World

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).*

Enter text...

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

Enter text...

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.

 Introduction to the biological effects and physics of radiation and radioactivity, radiation in our environment and society, and the interactions of radiation with organisms.

6. – [No ] 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?

Permission of instructor.

* 1. Why or why not?

Varied aspects of the subject matter mean that no specific course makes for a good prerequisite. Enrollment is expected to be low, so individual students can be vetted.

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

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

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

 Currently Demand. New frequency: Fall and Spring.

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. No Is this course dual listed (undergraduate/graduate)?

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

 Enter text...

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. No Does this course replace a course being deleted?

a. If yes, what course?

Enter text...

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

a. If yes, which course?

BIO 4611 Radiation Safety

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 course was conceived as one mechanism for training students to use radioisotopes on campus. Use of radioisotopes in science has been steadily decreasing, and online training modules now exist. However, the course has always had a strong focus on basic principles and general topics, with only a portion directly addressing safety techniques. With some alterations, the course is easily retooled as an exploration of radiation physics in chemistry, biology, and sociology to provide students with a scientific basis for understanding the phenomenon and how it might relate to them. Less than 20% of the course needs to be significantly altered to make this transition.

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

 See Box #17

19. Yes, course predates assessment plans. Do these revisions result in a change to the assessment plan?

 *\*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**

20. 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?

This course will contribute to the following two Program-level goals:

Students will be able to identify diversity as result of evolutionary and adaptive mechanisms while recognizing the underlying genetic principles and mechanisms of these processes.

Students will be able to distinguish biological mechanisms (for example cellular respiration; photosynthesis; DNA replication; etc.) and relate these mechanisms to overall biological systems and how they work.

 By understanding the presence of radioactivity in our environment, evidence of adaptive mechanisms for surviving and flourishing in the presence of radiation will become apparent.

 The interaction of radiation with biomass provides reinforcement of student knowledge of the operation of biological systems.

21. 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 #20)** | Students will be able to identify diversity as result of evolutionary and adaptive mechanisms while recognizing the underlying genetic principles and mechanisms of these processes. |
| Assessment Measure | Students will take a test in Biological Seminar class to measure success towards program goals.  |
| Assessment Timetable | Biological Seminar class meets every semester, with program learning outcomes tested each time. |
| Who is responsible for assessing and reporting on the results? | Dr. Than Boves, Biology Assessment Committee Chair, yearly. |

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

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| **Program-Level Outcome 2 (from question #20)** | Students will be able to distinguish biological mechanisms (for example cellular respiration; photosynthesis; DNA replication; etc.) and relate these mechanisms to overall biological systems and how they work. |
| Assessment Measure | Students will take a test in Biological Seminar class to measure success towards program goals.  |
| Assessment Timetable | Biological Seminar class meets every semester, with program learning outcomes tested each time. |
| Who is responsible for assessing and reporting on the results? | Dr. Than Boves, Biology Assessment Committee Chair, yearly. |

 **Course-Level Outcomes**

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

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| **Outcome 1** | Students will understand the nature of nuclear energy and its effect upon living things. |
| Which learning activities are responsible for this outcome? | Lectures, discussions, and take-home assignments. |
| Assessment Measure  | End of the semester exam using pooled data.  |

*(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. 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 4611. Radiation Safety~~** ~~Theory and techniques for dealing with radiation and radioactive materials. Required for students wishing to use radioactive materials on campus. Permission of Instructor required. Special course fees may apply. Demand.~~

**BIO 4611. 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, Permission of Instructor. Fall, Spring

**BIO 4613. Conservation Biology** 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. Special course fees may apply. Prerequisites, BIO 3023 or permission of instructor. Spring, odd.

**BIO 4623. Environmental Microbiology** Study of the physiology and diversity of microorganisms and their role in cycling of nutrients and mineralization of pollutants in the world. Special course fees may apply. Prerequisites, CHEM 1023 and BIO 2013, or BIO 4104, or BIO 4133. Spring, odd.

**BIO 4633. Environmental Toxicology Mechanisms and Impacts** Understanding the basic principles behind the study of impacts and the mechanisms of physiological disturbances associ­ated with environmental toxicant exposure to natural systems. Prerequisites, BIO 4133 and BIO 4131, or CHEM 4243 or permission of instructor. Lecture three hours per week. Special course fees may apply. Fall, even.

**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. P 570