Code # SM19 (2105) Rev

**New Course Proposal Form**

**Undergraduate Curriculum Council** - Print 1 copy for signatures and save 1 electronic copy.

**Graduate Council** - Print 1 copy for signatures and send 1 electronic copy to [pheath@astate.edu](mailto:pheath@astate.edu)

|  |
| --- |
| **New Course or**  **Experimental Course (1-time offering) (Check one box)**  *Please complete the following and attach a copy of the bulletin page(s) showing what changes are necessary.* |

|  |  |
| --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **Department Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **COPE Chair (if applicable)** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **Department Chair:** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **General Education Committee Chair (If applicable)** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **College Curriculum Committee Chair** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Undergraduate Curriculum Council Chair** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date… **College Dean** | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Graduate Curriculum Committee Chair** |
|  | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Enter date…  **Vice Chancellor for Academic Affairs** |

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

Tanja McKay, [tmckay@astate.edu](mailto:tmckay@astate.edu), 972-3240

2. Proposed Starting Term and Bulletin Year

Spring 2016

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 3314

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).

Economic Entomology

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

Identification, life history and principles of control for insects of economic importance. Special course fees may apply. Prerequisites BIO 1301 and BIO 1303 or BIOL 1001 and BIOL 1003. Spring.

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 BIO 1303 or BIOL 1001 and BIOL 1003

* 1. Why or why not?

An introductory biological sciences course is needed. Since this course serves students in 1) Biological Sciences BIO 1301 and BIO 1303 (Biology of Animals and Lab) and 2) College of Agriculture, BIOL 1001 and BIOL 1003 (Biological Science and Lab) would be the introductory courses most suitable.

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.*

Spring

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 Lab

9. What is the grade type (i.e. standard letter, credit/no credit, pass/fail, no grade, developmental)?

Standard letter

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

No

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? Choose an item.

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? Yes

a. If yes, what course?

BIO 3311 Economic Entomology Lab and BIO 3313 Economic Entomology Lecture

14. Will this course be equivalent to a deleted course? Yes

a. If yes, which course?

By combining both lecture and lab into one course, this 4 credit hour course, BIO 3314 will be equivalent to both deleted courses .

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? Yes

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

Dr. Timothy Burcham, Dean of Agriculture & Technology, [tburcham@astate.edu](mailto:tburcham@astate.edu), 972-2802

**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.)

Week 1: **Lecture:** Introduction: Why study economic entomology? **Lab:** Overview of arthropods

Week 2: **Lecture:** Insect life cycles and Insect ecology **Lab:** Insect morphology

Week 3: **Lecture:** Surveillance and sampling (Exam 1) **Lab:** Insect growth and development

Week 4: **Lecture:** Economic decision levels for pests **Lab:** (Lab practical 1)

Week 5: **Lecture:** Pest management theory **Lab:** Insect classification

Week 6: **Lecture:** Management with natural enemies **Lab:** Insect classification

Week 7: **Lecture:** Ecological management **Lab:** Insect classification

Week 8: **Lecture:** Insecticides and management (Exam 2) **Lab:** Pests of alfalfa and soybean

Week 9: **Lecture:** Managing insects with resistant plants **Lab:** (Lab practical 2)

Week 10: **Lecture:** Management by modifying insect development and behavior **Lab:** Horticulture pests

Week 11: **Lecture:** Sterile insect techniques and genetic tactics (Exam 3) **Lab:** Stored-product pests

Week 12: **Lecture:** Managing ecological backlash **Lab:** beneficial insects

Week 13: **Lecture:** IPM – various crop systems **Lab:** Medical and veterinary pests

Week 14: **Lecture:** IPM – various livestock production systems **Lab:** (Lab practical 3)

Week 15: Final exam

Enter text...

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

No

19. Department staffing and classroom/lab resources

No additional faculty or lab resources will be needed.

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

No

20. Does this course require course fees? Yes

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

**Assessment**

**University Goals**

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

|  |  |  |
| --- | --- | --- |
| * 1. Global Awareness | * 1. Thinking Critically | * 1. Using Technology |

**Program Goals**

22. 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 deals with the scientific principles and integrated pest management practices associated with the control of insects and other arthropod pests. Lectures will emphasize the ecology, biology and life history patterns of insects based on their associations with humans, domestic animals and crop systems. Labs will focus on the identification of insect pests related to various crops and livestock. Labs will be organized taxonomically. Each lab will focus on one or more orders of insects and students will learn to identify insects to the family level.

**OVERALL LEARNING OUTCOMES FOR THE COURSE:**

**Students will be able to:**

1. explain the various insect structures, life processes and be able to classify insects.
2. explain the ecological role of insect pests and the effects of the environment on insect development.
3. explain the various surveillance and sampling techniques used in integrated pest management.
4. outline the various control strategies used in integrated pest management.
5. Identify the various insect pests found in various crop and livestock production systems.

Based on these topics, this course fits well into the Biological Sciences curriculum.

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.

Students who take this course are on track to fulfill two of the three pillars of Biology that the Department of Biological Sciences’ has incorporated throughout the curriculum. These two pillars include: Evolution, adaptation and diversity (process and outcomes of history of life on earth). Structure and function, and systems. Every semester a different program outcome will be assessed in Biological Sciences. Economic Entomology will be part of the program assessment and an assessment question will be part of a pre-and post-test. This course is not mandated by an accrediting agency.

c. Student population served.

Undergraduates in the Biological Sciences Department and the College of Agriculture and Technology

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

This class is a sophomore class since students will have been exposed to introductory biological concepts in the prerequisite classes.

**Course Goals**

23. What is the intended program-level learning outcome for students enrolled in this course? Where does this course fit into an already existing program assessment process?

Over the past few years, faculty in our program have been working together to look at various biological concepts that students graduating from our field of biological science should have mastered. We have come up with three major topics (we call pillars (see 22.b) and have been doing extensive work on mapping our courses (looking at the topics discussed in each course) and seeing if students are either first introduced to the topic (intro courses) versus upper level courses (students should have mastered the concepts). Faculty in Biological Sciences are still working on the curriculum maps. This past August (2015), faculty teaching organismal courses decided to focus on one particular concept for each of our classes. For program-level assessment, all faculty agreed we would work on critical thinking skills and focus on one particular concept we all feel we teach in all our courses: “Obtain a clear understanding of the nature of living organisms & biological systems.”

Program-level outcome in Biological Sciences:

Students will learn to apply critical thinking and achieve the following goals for the Department of Biological Sciences: Obtain a clear understanding of the nature of living organisms & biological systems.

24. Considering the indicated program-level learning outcome (in Box #24), please fill out the following table to develop a continuous improvement assessment process for this course.

*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.*

|  |  |
| --- | --- |
| **Outcome 1** | Obtain a clear understanding of the nature of living organisms & biological systems. |
| Assessment Procedure Criterion | Pre-post tests, Quizzes, exams, research paper, minute papers. Economic Entomology will be assessed at the program level, focusing in on concepts related to “nature of living organisms & biological systems”. At our faculty retreat (August 2015), all faculty decided to prepare a pre- and post-test. We all decided to have at least on question related to “nature of living organisms & biological systems” on these tests. We also decided that we would also test these concepts in our own separate ways. For my assessment of this course I will have a variety of questions related to this outcome on my pre-and post tests. I will also have questions embedded in my exams and quizzes. I am also thinking of giving minute papers that will allow me to evaluate student learning at that particular time to see if students are understanding concepts. |
| Which learning activities are responsible for this outcome? | Lectures, reading assignments, hands-on lab experiments |
| Assessment  Timetable | Outcome 1 will be assessed each time the course is taught (each spring) |
| Who is responsible for assessing and reporting on the results? | Dr. Tanja McKay |

*(Repeat if needed for additional outcomes)* 25. High-Impact Activities (Check all that apply)

Collaborative assignments

Research with a faculty member

Diversity/Global learning experience

Service learning or community learning

Study abroad

Internship

Capstone or senior culminating experience

Other Explain: Enter text...

**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.* |

**Page 115**

AGRI 4223, Agriculture and the Environment

BIO 3303 AND 3301, General Entomology and Laboratory OR BIO 3314 Economic Entomology

~~BIO 3313 AND 3311, Economic Entomology and Laboratory~~

PSSC 3313, Plant Disease Management

**Page 116**

BIO 1503 AND1501, Biology of Plants and Laboratory

BIO 3303 AND 3301, General Entomology and Laboratory OR ~~BIO 3313 AND 3311, Economic Entomology and Laboratory~~

BIO 3314 Economic Entomology

PSSC 3313, Plant Disease Management

**Page 117**

AGRI 4223, Agriculture and the Environment

BIO 3303 AND 3301, General Entomology and Laboratory OR ~~BIO 3313 AND 3311, Economic Entomology and Laboratory~~

BIO 3314 Economic Entomology

PSSC 3313, Plant Disease Management

**Page 357**

Emphasis Area (Botany)

BIO 3033 Evolution

BIO 3303 AND 3301, General Entomology and Laboratory OR ~~BIO 3313 and 3311, Economic Entomology and Laboratory~~

BIO 3314 Economic Entomology

**Page 526**

BIO 3303. General Entomology   Identification, structure, and life history of the principal insect orders. Lecture three hours per week. Special course fees may apply. Prerequisites, BIO 1301 and BIO 1303. Fall.

~~BIO 3311. Economic Entomology Laboratory   Two hours per week. It is recommended this course be taken concurrently with BIO 3313. Special course fees may apply. Spring.~~

BIO 3312. Comparative Anatomy Laboratory  Four hours per week. Special course fees may apply. To be taken concurrently with BIO 3302. Fall, odd.

~~BIO 3313. Economic Entomology   Life history, distribution, and control of injurious insects. Lecture three hours per week. Special course fees may apply. Prerequisites, BIO 1301 and BIO 1303. Spring.~~

BIO 3314 Economic Entomology Identification, life history and principles of control for insects of economic importance. Special course fees may apply. Prerequisites, BIO 1301 and BIO 1303, OR BIOL 1001 and BIOL 1003. Spring.