California State University Channel Islands

NEW COURSE PROPOSAL

Courses must be submitted by October 15, 2014, and finalized by the end of that fall semester for the next catalog (2015-16) production.

Use YELLOWED areas to enter data.

DATE (*Change if modified and redate file with current date)*) OCTOBER 26, 2014

PROGRAM AREA(S) BIOLOGY

1. Course Information. *[Follow accepted catalog format.]*

Prefix(es) (Add additional prefixes if cross-listed) **and Course No. BIOL 472**

Title: INTEGRATED PEST MANAGMENT Units: 4

X Prerequisites BIOL 200

Corequisites

Consent of Instructor Required for Enrollment

Catalog Description (Do not use any symbols): Integrated pest management is a comprehensive approach to monitoring and controlling agricultural pest in an environmentally acceptable manner. The ecological principles of pest management will be presented and practiced as they relate to plant pathogens, weeds and arthropod pests. The major strategies for controlling pests, including the use of natural predators, cultural practices and chemical applications, will be discussed. Students will also examine the current pest management practices of local agricultural systems.

Grading Scheme:	**Repeatability:**	**Course Level Information:**
X A-F Grades	Repeatable for a maximum of units	X Undergraduate
Credit/No Credit	Total Completions Allowed	X Post-Baccalaureate/Credential
Optional (Student Choice)	Multiple Enrollment in Same Semester	Graduate

Mode of Instruction/Components (*Hours per Unit are determined by CSU policy*).

	Units	**Hours per Unit**	**Default Section Size**	**Graded Component**	**CS & HEGIS #** (Filled in by the Provost's Office)
Lecture	3	1	24	X	
Seminar		1			
Laboratory	1	3	23		
Activity		2			
Field Studies					
Indep Study					
Other Blank					

Leave the following hours per week areas blank. The hours per week will be filled out for you.

hours lecture per week

hours per week

2. Course Attributes:

General Education Categories: All courses with GE category notations must be submitted to the GE website: http://summit.csuci.edu/geapproval. Upon completion, the GE Committee will forward your documents to the Curriculum Committee.

A (English Language, Communication, Critical Thinking)

A-1 Oral Communication

A-2 English Writing

A-3 Critical Thinking

B (Mathematics, Sciences & Technology)

B-1 Physical Sciences

B-2 Life Sciences – Biology
B-3 Mathematics – Mathematics and Applications
B-4 Computers and Information Technology

C (Fine Arts, Literature, Languages & Cultures)

C-1 Art
C-2 Literature Courses
C-3a Language
C-3b Multicultural

D (Social Perspectives)
E (Human Psychological and Physiological Perspectives)
UDIGE/INTD Interdisciplinary
Meets University Writing Requirement (Graduation Writing Assessment Requirement)
Meets University Language Requirement

American Institutions, Title V Section 40404: Government US Constitution US History
Regarding Exec Order 405, for more information: http://senate.csuci.edu/comm/curriculum/resources.htm

Service Learning Course (Approval from the Center for Community Engagement must be received before you can request this course attribute).

Online Course (Answer YES if the course is ALWAYS delivered online).

Lab Fee Request – Lab fee requests should be directed to the Student Fee Committee.

3. **Justification and Requirements for the Course.** (Make a brief statement to justify the need for the course)

A. Justification: BIOL 472 will provide students with an introduction to the concepts and techniques used to effectively control a wide range of agricultural pests in an environmentally-safe manner, including when it is appropriate to release biological control agents or use chemical pesticides. This course in an elective for students in the Pest Control Adviser certificate program and is required by California's Department of Pesticide Regulation to qualify for the State's PCA licensing exam.

B. Degree Requirement:
Requirement for the Major/Minor
Elective for the Major/Minor
X Free Elective

Note: Submit Program Modification if this course changes your program.

4. **Student Learning Outcomes.** List in numerical order. Please refer to the Curriculum Committee's "Learning Outcomes" guideline for measurable outcomes that reflect elements of Bloom's Taxonomy: *http://senate.csuci.edu/comm/curriculum/resources.htm*. The committee recommends 4 to 8 student learning outcomes, unless governed by an external agency (e.g., Nursing).

Upon completion of the course, the student will be able to:

1) Explain how pesticide resistance develops.
2) Outline the ecological principles that integrated pest management is based upon.
3) Understand how pest biology and behavior influences the outcome of management practices.
4) Compare and contrast integrated pest management practices to conventional pest control.
5) Apply current integrative pest management principles to local agricultural systems.

5. **Course Content in Outline Form.** *[Be as brief as possible, but use as much space as necessary]*

Pests and Humans
History of Pest Control
Development of integrated pest management (IPM).
Traditional Pest Control vs. Integrated Pest Management
Pests and Their Impacts
Pest Life Cycles & Population Dynamics
Agricultural Ecosystems
Trophic Dynamics and Competition
Pest Interactions
Biodiversity and IMP
Decision-Making in Pest Management
Strategies in IPM practices
Cultural Management of Pests
Biological Control of Pests

Behavioral Control of Pests
Genetically modified crops
Pesticides
Pesticide Resistance & Management
Host-Plant Resistance
Organic Practices
Pest Invasions and Regulation
Societal and Environmental impacts of IPM
Crop Profiles and IPM Strategies
Future Directions in IPM

Does this course content overlap with a course offered in your academic program? **Yes** **No** X
If YES, what course(s) and provide a justification of the overlap.

Does this course content overlap a course offered in another academic area? **Yes** **No** X
If YES, what course(s) and provide a justification of the overlap.

Overlapping courses require Chairs' signatures.

6. Cross-listed Courses (*Please note each prefix in item No. 1) Beyond three disciplines consult with the Curriculum Committee.*

A. List Cross-listed Courses (Signature of Academic Chair(s) of the other academic area(s) is required).
List each cross-listed prefix for the course:

B. Program responsible for staffing:

7. References. *[Provide 3 - 5 references. For references more than 10 years old, provide a one-sentence explanation of relevance.]*

Flint, M. L. 2012. IPM in Practice: Principles and Methods of Integrated Pest Management. Second Edition. University of California Agriculture and Natural Resources, Pub # 3418. Richmond, CA.

Gurr, G. M., S. T. Wratten and M. A. Altieri. 2004. Ecological Engineering for Pest Management: Advances in Habitat Manipulation for Arthropods. Comstock Publishing Associates. Ithica, NY.

Norris, R. F., E. P. Caswell-Chen, M. Kogan. 2002. Concepts in Integrated Pest Management. Prentice Hall. Upper Saddle River, NJ. *This is a relavent and widely used college textbook, which is also more affordable than other similar books.*

Pedigo, L. P. and M. E. Rice. 2009. Entomology and Pest Management. 6th Edition. Prentice-Hall. Upper Saddle River, NJ.

Radcliffe, E. B., W. D. Hutchison and R. E. Cancelado. 2009. Integrated Pest Management: Concepts, Tactics, Strategies and Case Studies. Cambridge University Press, New York, NY.

8. Tenure Track Faculty Qualified to Teach This Course.

Ruben Alarcón (and local/regional agricultural stakeholders, suitability for instructions determined by Dr. Alarcón)

9. Requested Effective Date:
First semester to be offered: FALL 2015

10. New Resources Requested. Yes **No** X

If YES, list the resources needed.

A. Computer Needs (data processing, audio visual, broadcasting, other equipment, etc.)

B. Library Needs (streaming media, video hosting, databases, exhibit space, etc.)

C. Facility/Space/Transportation Needs

D. Lab Fee Requested X **Yes** **No** **(Lab fee requests should be directed to the Student Fee Committee)**

E. Other

11. Will this new course alter any degree, credential, certificate, or minor in your program? Yes X **No**
If, YES attach a program update or program modification form for all programs affected.
Deadline for New Minors and Programs: October 1, 2014.
Priority deadline for Course Proposals and Modifications, and for Program Modifications: October 15, 2014.
Last day to submit forms to be considered during the current academic year: April 1, 2015.

Ruben Alarcón October 12, 2014

Proposer of Course (Type in name(s). Signatures will be collected after Curriculum approval) Date

Approval Sheet

Course Prefix and number: BIOL 472

If your course has a General Education Component or involves Center affiliation, the Center will also sign off during the approval process.

Multiple Chair fields are available for cross-listed courses.

The CI program review process includes a report from the respective department/program on its progress toward accessibility requirement compliance. By signing below, I acknowledge the importance of incorporating accessibility in course design.

Program Chair		
	Signature	Date
Program Chair		
	Signature	Date
Program Chair		
	Signature	Date
General Education Chair		
	Signature	Date
Center for International Affairs Director		
	Signature	Date
Center for Integrative Studies Director		
	Signature	Date
Center for Multicultural Engagement Director		
	Signature	Date
Center for Civic Engagement Director		
	Signature	Date
Curriculum Chair		
	Signature	Date
AVP		
	Signature	Date