California State University Channel Islands

NEW COURSE PROPOSAL

Courses must be submitted by November 2, 2009, for priority catalog review.

DATE (*Change if modified and redate file with current date)*) 10-1-09; REV 12.7.09; REV 1.26.10
PROGRAM AREA(S) BIOLOGY

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

Prefix(es) (Add additional prefixes if cross-listed) **and Course No. BIOL 603**
Title: BIOTECHNOLOGY INTERNSHIP Units: 3

Prerequisites
Corequisites
x Consent of Instructor Required for Enrollment

Catalog Description (Do not use any symbols): A one-semester project where students conduct original research in an active research laboratory at various off campus institutions. Culminates in a final written report and an oral presentation at the Program Colloquium.

Grading Scheme:
A-F Grades
XX Credit/No Credit
Optional (Student Choice)

Repeatability:
Repeatable for a maximum of units
Total Completions Allowed
Multiple Enrollment in Same Semester

Course Level Information:
Undergraduate
Post-Baccalaureate/Credential
x Graduate

Mode of Instruction/Components (*Hours per Unit are defaulted*).

	Units	Hours per Unit	Benchmark Enrollment	Graded Component	CS & HEGIS # (Filled in by the Dean)
Lecture		1			
Seminar	3	1	20	x	
Laboratory		3			
Activity		2			
Field Studies		3			
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
3 hours seminar per week

2. Course Attributes:

General Education Categories: All courses with GE category notations (including deletions) 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 for further processing.

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
Meets University Language Requirement

American Institutions, Title V Section 40404: Government US Constitution US History
Refer to website, 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).

3. Justification and Requirements for the Course. (Make a brief statement to justify the need for the course)
A. Justification: This course provides opportunities to students enrolled in the MS Biotechnology and Bioinformatics program to gain hands-on learning experience at research labs at various off campus institutions.

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

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

4. Learning Objectives. (*List in numerical order. You may wish to use the following resource in utilizing measurable verbs: http://senate.csuci.edu/comm/curriculum/resources.htm*)
Upon completion of the course, the student will be able to:

- Describe the process of scientific research in the area of biotechnology
- Conduct biological experiments in a project-driven and mentored environment
- Demonstrate the ability to keep accurate records of her/his research project
- Analyze research findings
- Generate written technical reports of her/his research results using standard and accepted scientific terminology
- Communicate her/his research results via oral presentations at a symposium forum
- Describe state-of-the-art technology and advances in biotechnology

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

- Research laboratory biosafety and other laboratory rules and regulations
- Research techniques
- Identification of research questions to be addressed by student under mentor supervision
- Routine work and experimentation in the lab
- Attend group meetings at the research laboratory
- Familiarize with scientific literature in the research field
- Record keeping and laboratory notebook maintenance
- Analysis of research findings
- Submission of written reports
- Preparation and delivery of oral presentation of research activities

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)*

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]*

Solving Everyday Problems With the Scientific Method: Thinking Like a Scientist by Don K. Mak, Angela T. Mak and Anthony B. Mak Publisher: World Scientific Publishing Company, 2009, ISBN-10: 9812835091

Research Methods (Examples & Explanations Series) by Donald H. McBurney and Theresa L. White Publisher: Wadsworth Publishing; 8 edition, 2009, ISBN-10: 0495602191

Scientific Method In Biology by Elizabeth Blackwell, Publisher: Myers Press, 2007, ISBN-10: 1406768812

8. Tenure Track Faculty Qualified to Teach This Course.

Biology faculty

9. Requested Effective Date:
First semester offered: Summer 2011

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 (please refer to Dean's Office for additional processing) **Yes** **No** x

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.

Priority deadline for New Minors and Programs: October 5, 2009 of preceding year.
Priority deadline for Course Proposals and Modifications: November 2, 2009, of preceding year.
Last day to submit forms to be considered during the current academic year: April 15th.

Ching-Hua Wang	10-1-09
Proposer of Course (Type in name. Signatures will be collected after Curriculum approval)	Date

Approval Sheet

Program/Course:
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.

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
Dean of Faculty		
	Signature	Date