

CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS  
**COURSE MODIFICATION PROPOSAL**  
**Courses must be submitted by November 1, 2010,**  
**to make the next catalog (2011-12) production**

DATE (CHANGE DATE EACH TIME REVISED): 3-8-10

PROGRAM AREA(S): BIOLOGY

**Directions: All of sections of this form must be completed for course modifications. All documents are stand alone sources of course information.**

**1. Course Information.**

*[Follow accepted catalog format.] (Add additional prefixes if cross-listed)*

**OLD**

Prefix BIOL Course# 602 Title Stem Cell Technology  
 Internship Units (3+3 (2 semesters))  
 hours lecture per week  
 hours blank per week

x Prerequisites: BIOL 511

Consent of Instructor Required for Enrollment

Corequisites:

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

**NEW**

Prefix BIOL Course# 602 Title Stem Cell Technology  
 Internship Units (1.5)  
 hours lecture per week  
 hours blank per week

x Prerequisites: BIOL 511

Consent of Instructor Required for Enrollment

Corequisites:

**Catalog Description** (Do not use any symbols): A required two-semester project where students conduct original research in an active stem cell research laboratory at various off campus institutions. Culminates in a final written report and oral presentation. Repeatable for a total of 6 units for the year-long project.

General Education Categories  
 Lab Fee Requested  
 Course Level:  
 Undergraduate  
 Post-bac/Credential  
 Graduate

Graded  
 x CR/NC  
 A - F  
 Repeatability for up to units  
 Total Completions  
 Multiple Enrollment in same semester

General Education Categories  
 Lab Fee Requested  
 Course Level:  
 Undergraduate  
 Post-bac/Credential  
 Graduate

Graded  
 x CR/NC  
 A - F  
 Repeatability for up to 6 units  
 Total Completions 4  
 Multiple Enrollment in same semester

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

**Hegis Code(s)** \_\_\_\_\_  
 (Provided by the Dean)

**Existing**

**Proposed**

	Units	Hours Per Unit	Benchmark Enrollment	Graded		Units	Hours Per Unit	Benchmark Enrollment	Graded	CS No. (filled out by Dean)
Lecture		1			Lecture		1			
Seminar		1			Seminar		1			
Lab		3			Lab		3			
Activity		2			Activity		2			
Field Studies	6		15	x	Field Studies	1.5		15	x	
Indep Study					Indep Study					
Other blank					Other blank					

### 3. 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).

### 4. Justification and Requirements for the Course. *[Make a brief statement to justify the need for the course]*

#### **OLD**

This course is a requirement for the MS in Biotechnology and Bioinformatics program with an Emphasis in Stem Cell Technology and Laboratory Management. It is going to be offered through Extended Education as part of a self-supported program. This course will provide students with exposure to the actual research environments of stem cell laboratories. The course intends to provide students with the skills to perform mentored original research in stem cell technology. The duration of the internship is requested by the California Institute for Regenerative Medicine (CIRM) and the institutions that will host our interns. Agreements have been set up with these CIRM-funded research institutions to host our student interns specifically for our MS SCT&LM program, with approval from our administration. Due to the extensive training and complexity of the techniques the students have to learn during this process, we plan to offer several non lab courses in the MS Biotechnology and Bioinformatics program as on-line courses.

#### **NEW**

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Therefore, the students will be able to complete the internship while taking other required or elective courses on-line to finish the degree program on time.

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x Requirement for the Major/Minor  
 Elective for the Major/Minor  
 Free Elective

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 Elective for the Major/Minor  
 Free Elective

**Submit Program Modification if this course changes your program.**

**5. Learning Objectives.** (List in numerical order. You may wish to visit resource information at the following website: <http://senate.csuci.edu/comm/curriculum/resources.htm>)

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

**OLD**

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

- Describe the process of scientific research in the area of stem cell technology
- Conduct experiments with embryonic or adult stem cells in a project-driven and mentored environment
- Demonstrate the ability to keep accurate records of her/his research project in the area of stem cell technology
- Analyze research findings
- Generate written technical reports of her/his research results using standardized 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 human stem cell technology

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Describe state-of-the-art technology and advances in human stem cell technology

**6. Course Content in Outline Form.** (Be as brief as possible, but use as much space as necessary)

**OLD**

- Research laboratory biosafety and other laboratory rules and regulations
- Stem cell research techniques
- Identification of research questions to be addressed by student under mentor supervision
- Routine work and experimentation with stem cell culture
- Attend group meetings at the research laboratory
- Familiarize with scientific literature in stem cell technology
- Record keeping and laboratory notebook maintenance
- Analysis of research findings

**NEW**

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- Stem cell research techniques
- Identification of research questions to be addressed by student under mentor supervision
- Routine work and experimentation with stem cell culture
- Attend group meetings at the research laboratory
- Familiarize with scientific literature in stem cell technology
- Record keeping and laboratory notebook maintenance
- Analysis of research findings

- Submission of quarterly written reports
- Preparation and delivery of oral presentation of research activities

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- Preparation and delivery of oral presentation of research activities

Does this course content overlap with a course offered in your academic program? Yes ☐ No ☒

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 ☒

If YES, what course(s) and provide a justification of the overlap.

Overlapping courses require Chairs' signatures.

**7. Cross-listed Courses (Please note each prefix in item No. 1)**

- 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:
- Program responsible for staffing:

**8. References.** *[Provide 3-5 references]*

**OLD**

- Human Stem Cell Manual: A Laboratory Guide (Spiral-bound) by [Jeanne F. Loring](#) (Editor), Academic Press, 2007
- Human Embryonic Stem Cells: The Practical Handbook (Hardcover) by [Stephen Sullivan](#) (Editor), [Chad A Cowan](#) (Editor), [Kevin Eggan](#) (Editor), Wiley, 2007
- Human Embryonic Stem Cell Protocols (Methods in Molecular Biology) (Hardcover) by [Kursad Turksen](#) (Editor), Humana Press, 2006

**NEW**

- Human Stem Cell Manual: A Laboratory Guide (Spiral-bound) by [Jeanne F. Loring](#) (Editor), Academic Press, 2007
- Human Embryonic Stem Cells: The Practical Handbook (Hardcover) by [Stephen Sullivan](#) (Editor), [Chad A Cowan](#) (Editor), [Kevin Eggan](#) (Editor), Wiley, 2007
- Human Embryonic Stem Cell Protocols (Methods in Molecular Biology) (Hardcover) by [Kursad Turksen](#) (Editor), Humana Press, 2006

**9. Tenure Track Faculty qualified to teach this course.**

Biology faculty

**10. Requested Effective Date or First Semester offered: Fall 2010**

**11. New Resource Requested: Yes ☐ No ☒**

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:**

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**D. Lab Fee Requested:** Yes ☐ No ☐ ( Refer to the Dean's Office for additional processing)

**E. Other.** ☐

**12. Indicate Changes and Justification for Each.** [Check all that apply and follow with justification. Be as brief as possible but, use as much space as necessary.]

☐ Course title

☐ Prefix/suffix

☐ Course number

x Units

☐ Staffing formula and enrollment limits

☐ Prerequisites/Corequisites

x Catalog description

☐ Mode of Instruction

☐ Course Content

☐ Course Learning Objectives

☐ References

☐ GE

☐ Other ☐

☐ Reactivate Course

**Justification:** BIOL 602 is a required year-long internship course for students enrolled in the Stem Cell Technology and Laboratory Management Emphasis of the MS in Biotechnology and Bioinformatics program. In order to implement this course and ensure that the students taking the course will be able to register in all the terms of the year using the PeopleSoft system, we need to split the total units and distribute the units to all quarterly terms.

**13. Will this course modification alter any degree, credential, certificate, or minor in your program?** Yes ☐ No x

If, YES attach a program update or program modification form for all programs affected.

Priority deadline for New Minors and Programs: **October 4, 2010** of preceding year.

Priority deadline for Course Proposals and Modifications: **November 1, 2010.**

Last day to submit forms to be considered during the current academic year: **April 15<sup>th</sup>.**

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Proposer(s) of Course Modification

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Date

Type in name. Signatures will be collected after Curriculum approval.

## Approval Sheet

**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		
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Signature

Date

Program Chair		
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Signature

Date

Program Chair		
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Signature

Date

General Education Chair		
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Signature

Date

Center for Intl Affairs Director		
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Signature

Date

Center for Integrative Studies Director		
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Signature

Date

Center for Multicultural Engagement Director		
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Signature

Date

Center for Civic Engagement and Service Learning Director		
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Signature

Date

Curriculum Chair		
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Signature

Date

Dean of Faculty		
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Signature

Date