CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS

COURSE MODIFICATION PROPOSAL

Courses must be submitted by October 15, 2013, and finalized by the end of the fall semester to make the next catalog (2014-15) production

DATE (CHANGE DATE EACH TIME REVISED): 10/14/13 (FIRST REVISED 3-8-10); rev 11.5.13
PROGRAM AREA(S) : BIOLOGY
Directions: All of sections of this form must be completed for course modifications. Use YELLOWED areas to enter data. All documents are stand alone sources of course information.

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1. Indicate Changes and Justification for Each. *[Mark an X by all change areas that apply then please follow-up your X's with justification(s) for each marked item. Be as brief as possible but, use as much space as necessary.]*

	Course title		Course Content
	Prefix/suffix		Course Learning Outcomes
	Course number		References
	Units		GE
	Staffing formula and enrollment limits	X	Other Grading
X	Prerequisites/Corequisites		Reactivate Course
	Catalog description	X	Mode of Instruction

Justification:

PREREQUISITE: The prerequisite for this course was BIOL511 (Advanced Stem Cell Technology), a course which involved a 1-week long stem cell workshop held at University of Southern California. BIOL511 has been inactivated and hence will not serve as a prerequisite for this course. The new prerequisite for this course will now be BIOL517 (Developmental Biology), a required elective for all students in the Stem Cell Technology and Lab Management emphasis of the MS Biotech degree program.

OTHER (Grading basis): The grading basis is being changed from CR/NC to a letter grade (A-F). This is being done to assess the student based on his/her actual performance in the internship rather than assigning a standard CR even to the poorly performing students. A letter grade will fairly assess the students.

OTHER (Consent of Instructor): The consent of instructor will be required to enroll in this course as previously there were instances where students either did not complete a prerequisite or received a failing grade in the prerequisite. The instructor will ensure that students have completed all prerequisites and attained a passing grade before they commence their internship.

MODE OF INSTRUCTION: This is a one year internship which is conducted outside of CI at host institutions which have been approved by CIRM (California Institute for Regenerative Medicine), the funding agency for this internship. CIRM requires that students dedicate full time to their internship activities and not seek employment elsewhere or conduct any volunteer work. Full time participation translates into 40h/week commitment to the internship, hence the default hours per unit equation cannot be applied for this.

2. Course Information.
[Follow accepted catalog format.] ***(Add additional prefixes i f cross-listed)***

OLD	**NEW**
Prefix **BIOL** Course# **602**	Prefix **BIOL** Course# **602**
Title **Stem Cell Technology Internship** Units **(1.5)**	Title **Stem Cell Technology Internship** Units **(1.5)**
18 hours laboratory hours per week	18 hours laboratory hours per week
hours blank per week	hours blank per week
Prerequisites: **BIOL511**	**X** Prerequisites: **BIOL517**
Consent of Instructor Required for Enrollment	**X** Consent of Instructor Required for Enrollment **YES**
Corequisites:	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.	**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:	General Education Categories:

Grading Scheme (Select one below):
- ____ A – F
- **X** Credit/No Credit
- ____ Optional (Student's Choice)

Repeatable for up to **6** units
Total Completions **4**
Multiple Enrollment in Same Semester Y/N ____
Course Level:
- ____ Undergraduate
- ____ Post-Baccalaureate
- X Graduate

Grading Scheme (Select one below):
- **X** **A – F**
- ____ Credit/No Credit
- ____ Optional (Student's Choice)

Repeatable for up to **6** units
Total Completions **4**
Multiple Enrollment in Same Semester Y/N ____
Course Level:
- ____ Undergraduate
- ____ Post-Baccalaureate
- X Graduate

3. Mode of Instruction (Hours per Unit are defaulted) **Hegis Code(s)**_____
(Provided by the Provost Office)

Existing

	Units	Hours Per Unit	Default Section Size	Graded
Lecture	____	1	____	____
Seminar	____	1	____	____
Lab	____	3	____	____
Activity	____	2	____	____
Field Studies	1.5		15	____
Indep Study	____		____	____
Other blank	____		____	____
Online	____			____

Proposed

	Units	Hours Per Unit	Default Section Size	Graded	CS No. (filled out by Provost Office)
Lecture	____		____	____	____
Seminar	____		____	____	____
Lab	____		____	____	____
Activity	____		____	____	____
Field Studies	1.5	***	15	X	____
Indep Study	____		____	____	____
Other blank	____		____	____	____
Online	____			____	____

*** *This is a full time internship and interns are required to dedicate 40h/week (as mandated by CIRM) to their internship activities which primarily involve lab work at an off-site facility.*

4. 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 (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).

5. **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 being offered through Extended Education as part of a self-supported program. This course provides students with exposure to the actual research environments of stem cell laboratories. The course provides 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 SCTLM 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. 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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This course is a requirement for the MS in Biotechnology and Bioinformatics program with an Emphasis in Stem Cell Technology and Laboratory Management (SCTLM). It is being offered through Extended Education as part of a self-supported program. This course provides students with exposure to the actual research environments of stem cell laboratories. The course provides 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 SCTLM emphasis, 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. 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.

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.

6. **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:

OLD

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- 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

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- 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

7. 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
- Submission of quarterly written reports
• Preparation and delivery of oral presentation of research activities

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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.

8. 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).
B. List each cross-listed prefix for the course:
C. Program responsible for staffing:

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

OLD

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

NEW

1. Human Stem Cell Manual: A Laboratory Guide (Spiral-bound) by Jeanne F. Loring (Editor), Academic Press, 2007

2. Human Embryonic Stem Cells: The Practical Handbook (Hardcover) by Stephen Sullivan (Editor), Chad A Cowan (Editor), Kevin Eggan (Editor), Wiley, 2007
3. Human Embryonic Stem Cell Protocols (Methods in Molecular Biology) (Hardcover) by Kursad Turksen (Editor), Humana Press, 2006

10. Tenure Track Faculty qualified to teach this course.
Biology faculty

11. Requested Effective Date or First Semester offered: Course is already being offered

12. New Resource 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: Yes No (Lab fee requests should be directed to the Student Fee Committee)

E. Other.

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 1, 2013 of preceding year.
Priority deadline for Course Proposals and Modifications: October 15, 2013.
Last day to submit forms to be considered during the current academic year: April 15th.

Nitika Parmar 10/13/13

Proposer(s) of Course Modification 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.

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 Intl Affairs Director		
	Signature	Date
Center for Integrative Studies Director		
	Signature	Date
Center for Multicultural Engagement Director		
	Signature	Date
Center for Civic Engagement and Service Learning Director		
	Signature	Date
Curriculum Chair		
	Signature	Date
AVP		
	Signature	Date