#### California State University Channel Islands

## **NEW COURSE PROPOSAL**

## Courses must be submitted by October 15, 2013, and finalized by the end of that fall

semester for the next catalog production.

Use YELLOWED areas to enter data.

DATE ( <i>Change if modified and redate file with current date</i> ))	10 October 2013; rev 11.12.13		
PROGRAM AREA(S)	BIOLOGY		
1. <b>Course Information</b> . [Follow accented catalog format	1		

. Course Information. [Follow accepted catalog format.] Prefix(es) (Add additional prefixes if cross-listed) and Course No. Biol 517 Title: MECHANISMS OF DEVELOPMENT Units: 3

x Prerequisites BIOL 300

Corequisites

Consent of Instructor Required for Enrollment

**Catalog Description** (Do not use any symbols ): **E**xamines cellular and molecular mechanisms of development in model organisms used in the study of animal development. Topics include: stages of early development in a variety of vertebrate and invertebrate model organisms, cell specification, morphogenesis, organogenesis, stem cells and induction.

Gra	iding Scheme:	Rep	eatability:	Co	urse Level Information:
x A	-F Grades		Repeatable for a maximum of		Undergraduate
		unit	S		
	Credit/No Credit	Tota	al Completions Allowed		Post-Baccalaureate/Credential
	Optional (Student Choice)		Multiple Enrollment in Same Semester	х (	Graduate

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

		Hours per	Default Section Size	Graded Component	<b>CS &amp; HEGIS #</b> (Filled in by the Provost's
	Units	Uni 🗆			Office)
Lecture	3	1	20	Х	
Seminar		1			
Laboratory		3			
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.

3 hours lecture per week

hours blank per week

### 2. Course Attributes:

**General Education Categories:** All courses with GE category notations (including deletions) must be submitted to the GE website: <u>http://summit.csuci.edu/geapproval</u>. 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 (F	ine 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).
YES	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

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

 A. Justification: There is currently a paucity of elective course offerings for the Masters of Science in Biotechnology degree program. The addition of this course will expand the elective course offerings and will be of particular interest to students in the Stem Cell emphasis because it provides foundational knowledge for the field of stem cell science.

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

<u>http://senate.csuci.edu/comm/curriculum/resources.htm</u>. 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:

- Outline and compare early developmental stages in a variety of model organisms
- Explain the mechanisms which lead to cell determination
- Explain the role of inductive interactions in cell differentiation
- Construct a hypothesis from a set of observations and then design experiments to test the hypothesis
- 5. Course Content in Outline Form. [Be as brief as possible, but use as much space as necessary]

Early stages of development in invertebrate and vertebrate model organisms Neurulation in vertebrates Ectoderm, endoderm and mesoderm derivatives Morphogenesis The molecular underpinnings of cell fate determination Induction Organogenesis

Does this course content overlap with a course offered in your academic program? <b>Yes</b> If YES, what course(s) and provide a justification of the overlap.	No x
Does this course content overlap a course offered in another academic area? <b>Yes</b> If YES, what course(s) and provide a justification of the overlap.	No x

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: Biology
- 7. References. [Provide 3 5 references]

Kalthoff, K. (2001). *Analysis of Biological Development, 2<sup>nd</sup> Edition*. McGraw-Hill. Gilbert, S.F. (2010). *Developmental Biology, 9<sup>th</sup> edition*. Sinauer Assoc., Inc. Wolpert, L. & Tickle, C. (2010). *Principles of Development*, 4<sup>th</sup> edition. Oxford Unviersity Press.

#### 8. Tenure Track Faculty Qualified to Teach This Course.

Dr. Nancy Mozingo

- **9. Requested Effective Date:** First semester offered: Spring 2014
- **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 Yes No x (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.		
	Priority deadline for New Minors and Programs: October 1, 2013 of preceding year.		
	Priority deadline for Course Proposals and Modifications: October 15, 2013, of preceding year.		
	Last day to submit forms to be considered during the current academic year: April 15 <sup>th</sup> .		

Nancy Mozingo

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

# **Approval Sheet**

#### Program/Course: BIOL 517

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