CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS

NEW COURSE PROPOSAL

PROGRAM AREA ____BIOLOGY_____

1. **Catalog Description of the Course.** *[Include the course prefix, number, full title, and units. Provide a course narrative including prerequisites and corequisites. If any of the following apply, include in the description: Repeatability (May be repeated to a maximum of ___ units); time distribution (Lecture ___ hours, laboratory ___ hours); non-traditional grading system (Graded CR/NC, ABC/NC). Follow accepted catalog format.]*

   BIOL 427. DEVELOPMENTAL BIOLOGY (4)
   Three hours of lecture and three hours of laboratory per week.
   Prerequesites: Chem 122; Biol 300 with a grade of C or better.
   This course will use descriptive, experimental and comparative approaches in the study of animal development. Developmental stages including gametogenesis, fertilization, cleavage, gastrulation and organogenesis will be discussed in a variety of animal phyla. The molecular and cellular mechanisms underlying morphogenesis and the evolutionary conservation of developmental mechanisms in various animal phyla will be examined. A lab fee is required.

2. **Mode of Instruction.**

	Units	**Hours per Unit**	**Benchmark Enrollment**
Lecture	_____3___	_____1__	_____20__
Seminar	_____	_____	_____
Laboratory	_____1_	_____3__	_____20__
Activity	_____	_____	_____

3. **Justification and Learning Objectives for the Course.** (Indicate whether required or elective, and whether it meets University Writing, and/or Language requirements) *[Use as much space as necessary]*

   BIOL 427 is an elective course for Biology majors. This is an advanced course in developmental biology which will be of interest to students desiring a well-rounded education in biology as well as pre-professional students.
   Students who successfully complete this course will be able to:
   - Outline and compare the developmental stages which occur in a variety of animal phyla
   - Explain the mechanisms which lead to cell determination
   - Describe the evolutionary conservation of developmental mechanisms
   - Generate a hypothesis from a set of observations and then design experiments to test the hypothesis

4. **Is this a General Education Course** **YES** **NO**
   If Yes, indicate GE category:

A (English Language, Communication, Critical Thinking)	
B (Life Sciences)	
C (Fine Arts, Literature, Languages & Cultures)	
D (Social Perspectives)	
E (Human Psychological and Physiological Perspectives)	

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

Fertilization
Cleavage
Gastrulation
Neurulation
Ectoderm, endoderm and mesoderm derivatives
Morphogenesis
Cell fate determination
Induction
Organogenesis
Spatial patterning

6. References. *[Provide 3 - 5 references on which this course is based and/or support it.]*

Kalthoff, K. (2001). *Analysis of Biological Development, 2nd Edition*. McGraw-Hill.
Gilbert, S.F. (2000). *Developmental Biology, 6th edition*. Sinauer Assoc., Inc.
Wolpert, L., Beddington, R., Brockes, J., Jessell, T., Lawrence, P., Meyerowitz, E. (1998). *Principles of Development*. Oxford Unviersity Press.

7. List Faculty Qualified to Teach This Course.
Nancy Mozingo

8. Frequency.
a. Projected semesters to be offered: Fall _____ Spring __X___ Summer _____

9. New Resources Required.
a. Computer (data processing), audio visual, broadcasting needs, other equipment
b. Library needs
c. Facility/space needs
Biology teaching laboratory with standard laboratory equipment and supplies.

10. Consultation.
Attach consultation sheet from all program areas, Library, and others (if necessary)

11. If this new course will alter any degree, credential, certificate, or minor in your program, attach a program modification.

__Nancy Mozingo_____6 Jan 2003_____
Proposer of Course Date