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 316 INVERTEBRATE ZOOLOGY (4)
   Three hours of lecture and three hours of laboratory per week.
   Prerequisite: BIOL 200
   This course will survey invertebrates from simple, single-celled protists to the most complex of invertebrate animals. Over ninety-five percent of the animals on earth are invertebrates -- animals without backbones. Aspects of the ecology, physiology and evolutionary history of this diverse array of animals will be examined. Human interactions with invertebrates and conservation issues will also be highlighted. Field trips will be required. 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]*

   This will be an elective course for Biology majors.

   Invertebrate Zoology is a diversity survey course. The topic matter can range far beyond the group of organisms in question to include ecology, physiology, evolution, conservation, *etc*. In this way, as the students gain understanding of the target group, they are exposed (or reexposed) to key concepts and principles, thus sharpening and continuing to build upon their basic biological knowledge.

   Nearly all animals on the planet are invertebrates. The diversity will be presented in a phylogenetic context, which emphasizes evolutionary patterns and processes. Ecological, physiological and adapational issues are constantly brought into play as the biology and evolutionary history of various groups are examined. Conservation, medical, economic and management issues are also raised in numerous instances in which humans and invertebrates interact.

   A field trip to the rocky intertidal zone (at low tide) allows exposure to numerous groups of invertebrate animals in a complex ecosystem in which they are particularly prominent.

   Learning Objectives
   Students who successfully complete this course will be able to:

   - explain the evolution of animal body plans from simple to complex.
   - describe the classification system of invertebrate animals.
   - apply basic physiological and ecological concepts to invertebrate animals.
   - identify major invertebrate groups, and describe their key characteristics.
   - identify human impacts on invertebrate populations, and the ecosystems in which they live.

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]*

1. Introduction to scientific method, including the sciences of zoological classification and phylogenetics.
2. Basic ecological and evolutionary principles.
3. Survey of invertebrate phyla, from Protists to Chordates.
4. Human interactions with invertebrates.
5. Conservation and management issues.

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

Invertebrate Zoology by E.E. Rupert & R.D. Barnes. 1994. Brooks/Cole Publ. Co.
Invertebrate Zoology Lab Manual by R.L. Wallace & W.K. Taylor. 2003. Prentice Hall.
Invertebrates, 2nd edition by R.C. Brusca and G.J. Brusca. 2003. Sinauer
Intertidal Invertebrates of California by Robert Harding Morris, Donald P. Abbott, Eugene Clinton Haderlie. 1980. Stanford University Press.

7. List Faculty Qualified to Teach This Course.

Biology faculty

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
Equipped Biology lab, with capacity to maintain live invertebrate animals.
Collection of representative preserved specimens.

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.

_Ching-Hua Wang _____5 Dec 03_____
Proposer of Course Date