CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS

NEW COURSE PROPOSAL

PROGRAM AREA BIOLOGY

1. Catalog Description of the Course.

BIOL 433 ECOLOGY AND THE ENVIRONMENT (4)
Three hours of lecture and three hours of laboratory per week.
Prerequisite: BIOL 200.
Ecological characteristics of natural ecosystems and basic effects of human society upon those systems. Plant and animal distribution patterns in relation to past and present physical and biotic factors. Issues of resource management, population, food production, global environmental problems will also be emphasized to explore future directions. Field trips to local ecosystems will be taken. A lab fee is required.
GenEd: B1, B2 and Interdisciplinary

2. Mode of Instruction.

	Units	**Hours per Unit**	**Benchmark Enrollment**
Lecture	____3___	____1___	___48___
Seminar	_____	_____	_____
Laboratory	____1___	____3___	___24___
Activity	_____	_____	_____

3. Justification and Learning Objectives for the Course.
This is a required course for the Bachelor of Science Degree in Biology and ESRM. An understanding of the role ecology plays in society is essential for students of biology. This course will use lectures, field trips and in-class computer simulations to present ecological principles in both terrestrial and aquatic ecosystems. The course will provide biology students with the knowledge, skills and abilities to analyze the relationships between organisms and their environment.

Students who successfully complete this course will be able to:
- describe plant and animal distribution patterns in relation to abiotic and biotic factors
- define the essential characteristics underlying natural ecosystems
- explain model population and community-level dynamics
- interpret and present ecological results
- identify global environmental problems

4. Is this a General Education Course YES
If Yes, indicate GE category:

A (English Language, Communication, Critical Thinking)	
B (Mathematics & Sciences)	**2**
C (Fine Arts, Literature, Languages & Cultures)	
D (Social Perspectives)	
E (Human Psychological and Physiological Perspectives)	

5. Course Content in Outline Form.
- Terrestrial Biomes
- Temperature relations
- Energy and Nutrient relations
- Population genetics and natural selection
- Population dynamics
- Life histories
- Exploitation
- Species diversity and abundance
- Primary production and energy flow

- Succession and stability
- Landscape ecology
- Global ecology

6. References

Cox, George W. *General Ecology Laboratory Manual*. 8th Edition. McGraw-Hill.
Enger, Eldon D. & Smith, Bradley F. *Field Laboratory Exercises in Environmental Science*. 7th Edition. McGraw-Hill.
Meir, Eli 2001. *Ecobeaker 2.0: laboratory Guide and Manual.* Beakerware
Molles Jr. Mauel C. 2002. *Ecology: Concepts and Applications*. McGraw-Hill
Stiling, Peter 2002. *Ecology: Theories and Applications.* Prentice-Hall

7. List Faculty Qualified to Teach This Course.
Biology faculty

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

9. New Resources Required.
a. Computer (data processing), audio visual, broadcasting needs, other equipment
b. Library needs
c. Facility/space needs

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 — Proposer of Course
20th Dec. 2002 — Date