

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 331. BIOTECHNOLOGY IN THE TWENTY-FIRST CENTURY (3)

Three hour lecture per week.

Presentation of recent advances in biotechnology and discussion of societal implications. Topics include the processes and methods used to manipulate living organisms, or the substances and products from them, for use in medicine, agriculture, food production, gene therapy, forensics and warfare. The social, ethical and political issues raised by modern biotechnology will be discussed. No credit given toward the biology major.

GenEd: B2, D and Interdisciplinary

- 2. Mode of Instruction.**

	Units	Hours per Unit	Benchmark Enrollment
Lecture	___3___	___1___	___30___
Seminar	_____	_____	_____
Laboratory	_____	_____	_____
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 is an upper division General Education course designed to provide non-biology majors with a broad view of biotechnology, integrating historical and modern biotechnology topics. The processes and methods used to manipulate living organisms or the substances and products from them for use in medicine, agriculture, food production, gene therapy, forensics and warfare will be covered. The social, ethical and political issues raised by modern biotechnology will be discussed.

Students completing this class should be equipped with the knowledge and skills to:

1. Explain the processes and methods used to manipulate living organisms and their products.
2. Describe the evolution of modern biotechnology.
3. Assess the contribution of biotechnology to medicine, agriculture, food production, gene therapy, forensics and warfare.
4. Evaluate realistically the current literature on the uses of biotechnology.
5. Discuss the social, ethical and political issues relating to biotechnology.
6. Apply inductive and deductive reasoning to analyze current issues in biotechnology.

- 4. Is this a General Education Course** **YES**

If Yes, indicate GE category:

A (English Language, Communication, Critical Thinking)	
B (Mathematics & Sciences)	B2
C (Fine Arts, Literature, Languages & Cultures)	
D (Social Perspectives)	X
E (Human Psychological and Physiological Perspectives)	

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

- Introduction
- Recombinant DNA technology

- The exploitation of microorganisms
- Animal biotechnology
- Plant biotechnology
- Gene therapy
- Forensics
- Biological warfare
- Social, ethical and legal aspects of biotechnology

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

1. **Biotechnology: Demystifying the Concepts**, by D. Bourgaize, T. Jewell and R. Buiser, Addison Welsey, 2000
2. **Biotechnology: An Introduction**, by S. Barnum, Brooks/Cole, 1998.
3. **Molecular Biotechnology**, by SB Primrose, Blackwell, 2002.

7. List Faculty Qualified to Teach This Course.

Louise Lutze-Mann
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.

Louise Lutze-Mann	1-3-03
Proposer of Course	Date