CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS

NEW COURSE PROPOSAL

PROGRAM AREA BUSINESS & ECONOMICS

1. Catalog Description of the Course. *[Follow accepted catalog format.]*

Prefix BUS **Course#** 331 **Title** BIOTECHNOLOGY IN THE TWENTY-FIRST CENTURY **Units** (3)
Three **hours** Lecture **per week**
☐ **Prerequisites**
☐ **Corequisites**
Description 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

	Graded	
☒ **Gen Ed**	☐ **CR/NC**	☐ **Repeatable for up to units**
Categories B2, D, INTER		
☐ **Lab Fee Required**	☒ **A - F**	**Total Completions Allowed**
	☐ **Optional (Student's choice)**	☐ **Multiple Enrollment in same semester**

2. Mode of Instruction.

	Units	Hours per Unit	Benchmark Enrollment	Graded Component	CS # (filled in by Dean)
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]*
Justification: 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.

Learning Objectives:
Upon completion of this course students will be able to:
(Press enter for the next bulleted item)

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 ☒ NO ☐

If Yes, indicate GE category and attach GE Criteria Form:

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 (Fine 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) ☐
UD Interdisciplinary ☒

5. Course Content in Outline Form. *[Be as brief as possible, but use as much space as necessary] (Press enter for the next bulleted item)*

- Introduction
- Recombinant DNA technology
- The expolitation of microorganisms
- Animal biotechnology
- Plant biotechnology
- Gene therapy
- Forensics
- Biological warfare

Social, ethical and legal aspects of biotechnology

Does this course overlap a course offered in your academic program? YES ☐ NO ☒
If YES, what course(s) and provide a justification of the overlap?

Does this course overlap a course offered in another academic area? YES ☐ NO ☒
If YES, what course(s) and provide a justification of the overlap?
Signature of Academic Chair of the other academic area is required on the consultation sheet below.

6. Cross-listed Courses (Please fill out separate form for each PREFIX)
List Cross-listed Courses
BIOL 331
Signature of Academic Chair(s) of the other academic area(s) is required on the consultation sheet below

Department responsible for staffing: BIOL

7. References. *[Provide 3 - 5 references on which this course is based and/or support it.] (Press enter for the next number)*

Biotechnology: Demystifying the Concepts, by D. Bourgaize, T. Jewell and R. Buiser, Addison Welsey, 2000
1. Biotechnology: An Introduction, by S. Barnum, Brooks/Cole, 199
2. Molecular Biotechnology, by SB Primrose, Blackwell, 2002

8. List Faculty Qualified to Teach This Course.

Biology Faculty

9. Frequency.
a. Projected semesters to be offered: Fall ☒ Spring ☐ Summer ☐

10. New Resources Required. YES ☐ NO ☒

If YES, list the resources needed and obtain signatures from the appropriate programs/units on the consultation sheet below.

a. Computer (data processing), audio visual, broadcasting needs, other equipment)

b. Library needs

c. Facility/space needs

11. Will this new course alter any degree, credential, certificate, or minor in your program? YES ☐ NO ☒

If, YES attach a program modification form for all programs affected.

William Cordeiro/Ching-Hua Wang	8/4/2005
Proposer of Course	Date