CALIFORNIA STATE UNIVERSITY CHANNEL ISLANDS

COURSE MODIFICATION PROPOSAL

Courses must be submitted by November 2, 2009, to make the next catalog (2010-2011) production

DATE (CHANGE DATE EACH TIME REVISED): 10-15-09; REV 12.8.09

PROGRAM AREA(S): BIOLOGY

Directions: All of sections of this form must be completed for course modifications. All documents are stand alone sources of course information.

1. **Course Information.**
   [Follow accepted catalog format.] *(Add additional prefixes if cross-listed)*

   **OLD**
   - Prefix: BIOL
   - Course#: 507
   - Title: PHARMACOGENOMICS AND PHARMACOPROTEOMICS
   - Units: 3
   - Lecture: 3 hours per week
   - Hours blank per week

   - **Prerequisites:** BINF 500, BIOL 504 or permission of instructor
   - **Consent of Instructor Required for Enrollment**
   - **Corequisites:**

   **Catalog Description** (Do not use any symbols): Structural and functional genomics with an emphasis on how these fields operate in drug discovery and optimization. Topics include: genetics of the human response to prophylactic and therapeutic agent, impact of genetic variation on therapeutic efficacy, disease mechanisms, proteomics of genetic and communicable disease, drug action and toxicity, structure encoding, lead discovery and optimization, parallel synthesis, screening virtual libraries.

   - **General Education Categories:** CR/NC
   - **Lab Fee Requested:**
   - **Multiple Enrollment in same semester:**
   - **Graduate**
   - **Optional:** (Student’s choice)

   - **Graded:**
   - **Repeatable for up to:** units
   - **Total Completions:**
   - **Course Level:** Undergraduate
   - **Post-bac/Credential:**
   - **Undergraduate:**
   - **Post-bac/Credential:**
   - **Graduate**

   **NEW**
   - Prefix: BIOL
   - Course#: 507
   - Title: PHARMACOGENOMICS AND PHARMACOPROTEOMICS
   - Units: 3
   - Lecture: 3 hours per week
   - Hours blank per week

   - **Prerequisites:** BINF 500, BIOL 504
   - **Consent of Instructor Required for Enrollment**
   - **Corequisites:**

   **Catalog Description** (Do not use any symbols): Structural and functional genomics with an emphasis on how these fields operate in drug discovery and optimization. Topics include: genetics of the human response to prophylactic and therapeutic agent, impact of genetic variation on therapeutic efficacy, disease mechanisms, proteomics of genetic and communicable disease, drug action and toxicity, structure encoding, lead discovery and optimization, parallel synthesis, screening virtual libraries.

   - **General Education Categories:** CR/NC
   - **Lab Fee Requested:**
   - **Multiple Enrollment in same semester:**
   - **Graduate**
   - **Optional:** (Student’s choice)

   - **Graded:**
   - **Repeatable for up to:** units
   - **Total Completions:**
   - **Course Level:** Undergraduate
   - **Post-bac/Credential:**
   - **Undergraduate:**
   - **Post-bac/Credential:**
   - **Graduate**

2. **Mode of Instruction (Hours per Unit are defaulted)**

   **Existing**

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<tr>
<th>Mode</th>
<th>Units</th>
<th>Hours Per Unit</th>
<th>Benchmark Enrollment</th>
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<th>Hegis Code(s) (Provided by the Dean)</th>
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   **Proposed**

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<th>Hours Per Unit</th>
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3. Course Attributes:

- **General Education Categories:** All courses with GE category notations (including deletions) must be submitted to the GE website: [http://summit.csuci.edu/geapproval](http://summit.csuci.edu/geapproval). Upon completion, the GE Committee will forward your documents to the Curriculum Committee for further processing.

  **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)

  **UDIGE/INTD Interdisciplinary**
  - Meets University Writing Requirement
  - Meets University Language Requirement

- **American Institutions, Title V Section 40404:**
  - Government
  - US Constitution
  - US History

Refer to website, Exec Order 405, for more information: [http://senate.csuci.edu/comm/curriculum/resources.htm](http://senate.csuci.edu/comm/curriculum/resources.htm)

- **Service Learning Course** (Approval from the Center for Community Engagement must be received before you can request this course attribute).

4. Justification and Requirements for the Course. ([Make a brief statement to justify the need for the course]

- **OLD**
  - This course is an elective element of the biotechnology emphasis for the proposed Professional Science Masters degree in Biotechnology and Bioinformatics.

- **NEW**
  - This course is an elective course of the Professional Science Masters degree in Biotechnology and Bioinformatics.

5. Learning Objectives. ([List in numerical order. You may wish to visit resource information at the following website: [http://senate.csuci.edu/comm/curriculum/resources.htm](http://senate.csuci.edu/comm/curriculum/resources.htm)]

- **OLD**
  - Upon completion of the course, the student will be able to:
    - • explain the genetic factors underlying efficacy/toxicity of drug therapy
    - • evaluate genomic methods in drug design
    - • assess the value of phenotyping/genotyping in guiding drug therapy of individual patients
    - • screen a virtual library for molecules with potential therapeutic value

- **NEW**
  - Upon completion of the course, the student will be able to:
    - • explain the genetic factors underlying efficacy/toxicity of drug therapy
    - • evaluate genomic methods in drug design
    - • assess the value of phenotyping/genotyping in guiding drug therapy of individual patients
    - • utilize and evaluate a virtual screen 1 library for molecules with potential therapeutic value

6. Course Content in Outline Form. ([Be as brief as possible, but use as much space as necessary]

- **OLD**

- **NEW**
Introduction to Structural Genomics
Introduction to Functional Genomics
Genetics of the Human Response to Prophylactic and Therapeutic Agents
Impact of Genetic Variation on Therapeutic Efficacy
Stratifying Diseases by Mechanism
Proteomics/Pharmacoproteomics of Genetic and Communicable Disease
Toxicoproteomics
Drug Discovery and Optimization

Does this course content overlap with a course offered in your academic program? Yes No x
If YES, what course(s) and provide a justification of the overlap.

Does this course content overlap a course offered in another academic area? Yes No x
If YES, what course(s) and provide a justification of the overlap.

Overlapping courses require Chairs’ signatures.

7. Cross-listed Courses (Please note each prefix in item No. 1)
   A. List cross-listed courses (Signature of Academic Chair(s) of the other academic area(s) is required).
   B. List each cross-listed prefix for the course: 
   C. Program responsible for staffing: 

8. References. [Provide 3-5 references]

OLD

NEW

9. Tenure Track Faculty qualified to teach this course. Biology faculty

10. Requested Effective Date or First Semester offered: Summer 2010

11. New Resource Requested: Yes No x
If YES, list the resources needed.
A. Computer Needs (data processing, audio visual, broadcasting, other equipment, etc.)

B. Library Needs (streaming media, video hosting, databases, exhibit space, etc.)

C. Facility/Space/Transportation Needs:

D. Lab Fee Requested: Yes ☐  No ☒  (Refer to the Dean’s Office for additional processing)

E. Other. ☐

12. Indicate Changes and Justification for Each. [Check all that apply and follow with justification. Be as brief as possible but, use as much space as necessary.]

<table>
<thead>
<tr>
<th>Course title</th>
<th>Course Content</th>
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<tbody>
<tr>
<td>Prefix/suffix</td>
<td>Course Learning Objectives</td>
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<td>Catalog description</td>
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<td>Mode of Instruction</td>
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**Justification:** Since the number of students enrolled in the program has increased significantly in the last few years, we have actually enrolled nearly 30 students in the class. Raising the enrollment cap from 15 to 20 is reasonable as this is a lecture only elective course which requires a computer lab. It will help the students in their timely graduation from the program.

13. Will this course modification alter any degree, credential, certificate, or minor in your program? Yes ☐  No ☒  If, YES attach a program update or program modification form for all programs affected.

Priority deadline for New Minors and Programs: October 5, 2009 of preceding year.
Priority deadline for Course Proposals and Modifications: November 2, 2009.
Last day to submit forms to be considered during the current academic year: April 15th.

Ching-Hua Wang 10-15-09
Proposer(s) of Course Modification  Date
Type in name. Signatures will be collected after Curriculum approval.
Approval Sheet

Course: [ ]

If your course has a General Education Component or involves Center affiliation, the Center will also sign off during the approval process.

Multiple Chair fields are available for cross-listed courses.

<table>
<thead>
<tr>
<th>Chair</th>
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