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)

NEW Prefix BIOL Course# 507 Title PHARMACOGENOMICS Prefix BIOL Course# 507 Title PHARMACOGENOMICS AND PHARMACOPROTEOMICS Units (3) AND PHARMACOPROTEOMICS Units (3) 3 hours lecture per week 3 hours lecture per week hours blank per week hours blank per week Prerequisites: BINF 500, BIOL 504 or permission of x Prerequisites: BINF 500, BIOL 504 instructor x Consent of Instructor Required for Enrollment x Consent of Instructor Required for Enrollment Corequisites: Corequisites: Catalog Description (Do not use any symbols): Structural Catalog Description (Do not use any symbols): Structural and functional genomics with an emphasis on how these fields and functional genomics with an emphasis on how these fields operate in drug discovery and optimization. Topics include: operate in drug discovery and optimization. Topics include: genetics of the human response to prophylactic and therapeutic genetics of the human response to prophylactic and therapeutic agent, impact of genetic variation on therapeutic efficacy,

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.

Graded General Education Repeatable Categories CR/NC for up to units Lab Fee Requested **x** A - F Total Completions Course Level: Multiple **Optional** Enrollment in Undergraduate (Student's Post-bac/Credential same semester Graduate choice)

Graded General Education Repeatable for up to units Categories CR/NC Lab Fee Requested **x** A - F Total Completions Course Level: Multiple **Optional** Enrollment in same Undergraduate (Student's Post-bac/Credential semester choice) Graduate

disease mechanisms, proteomics of genetic and communicable

disease, drug action and toxicity, structure encoding, lead

discovery and optimization, parallel synthesis, screening

2. Mode of Instruction (Hours per Unit are defaulted) Hegis Code(s)_

(Provided by the Dean)

Existing

Proposed

virtual libraries.

	Units	Hours Per Unit	Benchmark Enrollment	Graded		Units	Hours Per Unit	Benchmark Enrollment	Graded	CS No. (filled out by Dean)
Lecture	<u>3</u>	<u>1</u>	<u>15</u>		Lecture	<u>3</u>	<u>1</u>	<u>20</u>	<mark>x</mark>	
Seminar		<u>1</u>			Seminar		<u>1</u>			
Lab		<u>3</u>			Lab		<u>3</u>			
Activity		<u>2</u>			Activity		<u>2</u>			
Field Studies					Field Studies					
Indep Study					Indep Study					
Other blank					Other blank					

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. 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

Service Learning Course (Approval from the Center for Community Engagement must be received before you

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

OLD NEW

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

Requirement for the Major/Minor

x Elective for the Major/Minor

Free Elective

can request this course attribute).

Requirement for the Major/Minor

Elective for the Major/Minor

Free Elective

Submit Program Modification if this course changes your program.

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)

Upon completion of the course, the student will be able to:

OLD

• 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

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 virtua screen l 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

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

Kalow, W., Meyer, A. and Tyndale, R. 2001. Pharmacogenomics. Marcel Dekker & Associates, ISBN: 0824705440 Rothstein, M. 2003. Pharmacogenomics: Social, Ethical, and Clinical Dimensions. Wiley-Liss, ISBN: 0471227692

Michelson S and Joho K: Drug discovery, drug development and the emerging world of pharmacogenomics: prospecting for information in a data-rich landscape. Current Opinion in Molecular Therapeutics 2, 651-654 (2000)

Blume, A., Beasley J., and Goldstein, N. 2000. The use of peptides in Diogenesis: A novel approach to drug discovery and phenomics. Biopolymers 55: 347-356

Cochet, Olivier, David J. Heard, Pascale Fehlbaum, Caroline Ducray, and Laurent Cracco. 2003. Exploiting Human Genomic Diversity Through Alternative RNA Splicing. PharmaGenomics 3:26-36

Brown, S. 2002. Essentials of Medical Genomics. Wiley-Liss, ISBN: 047121003X

NEW

Kalow, W., Meyer, A. and Tyndale, R. 2001. Pharmacogenomics. Marcel Dekker & Associates, ISBN: 0824705440 Rothstein, M. 2003. Pharmacogenomics: Social, Ethical, and Clinical Dimensions. Wiley-Liss, ISBN: 0471227692 Michelson S and Joho K: Drug discovery, drug development and the emerging world of pharmacogenomics: prospecting for information in a data-rich landscape. Current Opinion in Molecular Therapeutics 2, 651-654 (2000)

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Brown, S. 2002. Essentials of Medical Genomics. Wiley-Liss, ISBN: 047121003X

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	g, 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 Dear E. Other.	a's Office for additional processing)						
12. Indicate Changes and Justification for Each. [Check all that a	oply and follow with justification. Be as brief as possible but,						
use as much space as necessary.]							
	rse Content						
	rse Learning Objectives rences						
Units	tenees						
x Staffing formula and enrollment limits Other							
<u>-</u>	tivate Course						
Catalog description							
Mode of Instruction							
Justification: Since the number of students enrolled in the progractually enrolled nearly 30 students in the class. Raising the enrol elective course which requirs a computer lab. It will help the students	lment cap from 15 to 20 is reasonable as this is a lecture only						
13. Will this course modification alter any degree, credential, certif	icate, or minor in your program? Yes No x						
If, YES attach a program update or program modification form for							
Priority deadline for New Minors and Programs: October 5, 2009 of Priority deadline for Course Proposals and Modifications: Novem							
Last day to submit forms to be considered during the current acades							
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Ching-Hua Wang	10-15-09						
Proposer(s) of Course Modification	Date						
Type in name. Signatures will be collected after Curriculum approval.							

Approval Sheet

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.

Program Chair			
	Signature	Date	
Program Chair			
	Signature	Date	
Program Chair			
	Signature	Date	
General Education Chair			
	Signature	Date	
Center for Intl Affairs Director			
	Signature	Date	
Center for Integrative Studies Director			
	Signature	Date	
Center for Multicultural Engagement Director			
	Signature	Date	
Center for Civic Engagement and Service Learning Director			
	Signature	Date	
Curriculum Chair			
	Signature	Date	
Dean of Faculty			
	Signature	Date	