California State University Channel Islands

Program Modification

Program modifications must be submitted by October 15, 2013, and finalized by the end of that fall semester for catalog production.
Enter data in YELLOWED areas.

Date (10/13/13): 2014 2015 Catalog Copy 8.26.13; rev 12.10.13
Program Area: **Biotechnology & Bioinformatics: Biomedical Engineering Emphasis, M.S.**
Semester /Year First affected: FALL 2014

Instructions: Please use this Program Modification form for changes to existing program requirements, units, outcomes, emphases or options, or for other programmatic concerns. For minor changes (faculty or address changes, additions of approved electives, minor editing for clarity, and other minor updates) use the Program Update form, available at the Curriculum website.

Paste the latest approved version of your entire program in the left AND right boxes below. Make your deletions in the LEFT column by using the strikeout feature in Word or underlining, and highlight. Insert new language or other changes to the program on the RIGHT and highlight in YELLOW for easy identification. If possible, please align the two columns so that changes appear side-by-side with the original text.

SUMMARY OF CHANGES
Replaced MGT 471 with BIOL 502 as core requirement. MGT 471 becomes an elective. Replaced BIOL 504 with BINF 500 as GWAR course.

JUSTIFICATION
Currently the common MS Biotechnology course does not include a laboratory course. We believe that a molecular biology laboratory techniques course (BIOL 502) should be a required core element of a master's degree in biotechnology.

CURRENTLY APPROVED PROGRAM	PROPOSED PROGRAM	
Biotechnology & Bioinformatics: Biomedical Engineering Emphasis, M.S.	**Biotechnology & Bioinformatics: Biomedical Engineering Emphasis, M.S.**	

(34-35 units)	(34-35 units)	
Degree Requirements **Common Core Courses - 12 units** • BINF 500 - DNA and Protein Sequence Analysis **Units: 3** • BIOL 503 - Biotechnology Law and Regulation **Units: 3** • BIOL 504 - Molecular Cell Biology **Units: 3** • ~~MGT 471 - Project Management **Units: 3**~~ **Biomedical Engineering Emphasis - 23 units** **1. Required Courses - 15 units** • BME 500 - Biological Systems, Biomechanics and Biorobotics **Units: 3** • BME 501 - Fundamentals of Tissue Engineering and Biomaterials **Units: 3** • BIOL 601 - Seminar in Biotechnology and Bioinformatics **Units: 1** • BIOL 604 - Biotechnology Across National Boundaries **Units: 2** **Select either BME 502 or PHYS 464 - 3-4 units** • BME 502 - Biomedical Instrumentation and Devices: Technology & Application **Units: 3** • **or**	**Degree Requirements** **Common Core Courses - 12 units** • BINF 500 - DNA and Protein Sequence Analysis **Units: 3** • BIOL 502 – Techniques in Genomics/Proteomics Units: 3 • BIOL 503 - Biotechnology Law and Regulation **Units: 3** • BIOL 504 - Molecular Cell Biology **Units: 3** **Biomedical Engineering Emphasis - 23 units** **1. Required Courses - 15 units** • BME 500 - Biological Systems, Biomechanics and Biorobotics **Units: 3** • BME 501 - Fundamentals of Tissue Engineering and Biomaterials **Units: 3** • BIOL 601 - Seminar in Biotechnology and Bioinformatics **Units: 1** • BIOL 604 - Biotechnology Across National Boundaries **Units: 2** **Select either BME 502 or PHYS 464 - 3-4 units** • BME 502 - Biomedical Instrumentation and Devices: Technology & Application **Units: 3** • **or**	

• PHYS 464 - Medical Instrumentation (Cross-listed as BIOL 464) **Units: 4** **Select either BIOL 600 or 603 - 3-4 units** • BIOL 600 - Team Project **Units: 4** • **or** • BIOL 603 - Biotechnology Internship **Units: 3** **2. Electives - 6-8 units** ***The number of elective units will be dependent on required courses taken to total 23 units in the emphasis.*** **Graduate Writing Assessment Requirement** Writing proficiency prior to the awarding of the degree is demonstrated by successful completion of BIOL 504 with a grade of B or higher.	• PHYS 464 - Medical Instrumentation (Cross-listed as BIOL 464) **Units: 4** **Select either BIOL 600 or 603 - 3-4 units** • BIOL 600 - Team Project **Units: 4** • **or** • BIOL 603 - Biotechnology Internship **Units: 3** **2. Electives - 6-8 units** ***The number of elective units will be dependent on required courses taken to total 23 units in the emphasis.*** **Graduate Writing Assessment Requirement** Writing proficiency prior to the awarding of the degree is demonstrated by successful completion of BINF 500 with a grade of B or higher.	

Amy Denton Date

APPROVAL SHEET

Program:

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.

The CI program review process includes a report from the respective department/program on its progress toward accessibility requirement compliance. By signing below, I acknowledge the importance of incorporating accessibility in course design.

Program Chair		
	Signature	Date

Curriculum Chair		
	Signature	Date

AVP		
	Signature	Date