Miami Dade College

Course Competencies Template - Form 112

GENERAL INFORMATION	
Name: Drs. Susan Neimand and Edwin Ginés-Candelaria	Phone #: (305) 237-6152, (305) 237-3396
Course Prefix/Number: BCH 3023L	Course Title: Introductory Biochemistry Laboratory
Number of Credits: 3	
Degree Type	☐ B.A. ☒ B.S. ☐ B.A.S ☐ A.A. ☐ A.S. ☐ A.A.S. ☐ C.C.C. ☐ A.T.C. ☐ V.C.C
Date Submitted/Revised: 03/13/08	Effective Year/Term: Fall 2008-1
☐ New Course Competency ☒ Revised Course Competency	
Course to be designated as a General Education course (part of the 36 hours of A.A. Gen. Ed. coursework): ☐ Yes ☒ No	
The above course links to the following Learning Outcomes: ☐ Communication ☒ Numbers / Data ☐ Critical thinking ☒ Information Literacy ☐ Cultural / Global Perspective ☐ Social Responsibility ☐ Ethical Issues ☒ Computer / Technology Usage ☐ Aesthetic / Creative Activities ☐ Environmental Responsibility	
Course Description (limit to 50 words or less, **must correspond with course description on Form 102**): This laboratory course complements the lecture co-requisite BCH 3023, which involves the study of the fundamental components of biochemistry. In this laboratory course students will learn and will be provided with hands-on experiences with the concepts addressed in the lecture course.	
Prerequisite(s): CHM 2200 and CHM 2200L	Corequisite(s): BCH3023

Course Competencies: (for further instruction/guidelines go to: http://www.mdc.edu/asa/curriculum.asp)

Competency 1: The student will perform analyses of biomolecules by:

1. Separating and identifying amino acids using chromatographic techniques.
2. Isolating, characterizing, and/or identifying proteins.
3. Determining enzyme kinetic parameters.
4. Isolating, characterizing, and/or identifying carbohydrates.
5. Isolating, characterizing, and/or identifying lipids.
6. Isolating, characterizing, and/or identifying nucleic acids.

Competency 2: The student will utilize standard biochemistry laboratory techniques by:

1. Preparing buffer solutions.
2. Analyzing biomolecules using spectrophotometry.
3. Purifying biomolecules by homogenization and centrifugation.
4. Disposing of chemical waste according to general safety standards.

Revision Date: _____

Approved By Academic Dean Date: _____ Reviewed By Director of Academic Programs Date: _____

Competency 3: The student will gather, record, and analyze qualitative and quantitative data accurately by:

1. Using laboratory glassware for volume measurement, manipulating instruments, such as pipettes, and volumetric flasks in a manner that achieves accuracy and precision.
2. Measuring masses using standard and analytical balances.
3. Demonstrating proficiency in instrumentation by using instruments such as: spectrophotometers, pH meters, and centrifuges.
4. Creating notebooks, protocols, and laboratory reports that are clear and understandable, and that accurately represent the data collected.
5. Displaying experimental data in a spreadsheet and/or graphically.
6. Performing appropriate calculations with quantitative data.
7. Correlating observations with chemical and/or physical processes.