To be adopted:

Proposed Changes to Biochemistry Undergraduate Program
Bachelor of Science and Bachelor of Arts Degrees in Biochemistry

PRESENT:

Major
The three emphases areas within the Biochemistry major are Chemistry, Biology, and Medical Sciences. The Biology and Chemistry emphases are for students interested in postgraduate education or employment in the basic areas of the discipline of Biochemistry. The goal of the Medical Sciences emphasis is to prepare students for admission to post baccalaureate education in the health professions. The Biology, Chemistry, and Medical Sciences emphases focus on the development of laboratory and critical thinking skills, and hands-on laboratory experience. In addition, participation in an independent research project (BCH 197) or research tutorial (BCH 190), carried out under the supervision of a faculty member, is encouraged. Internships in industry (BCH 198-I) are also available, and often lead to valuable job experience and employment opportunities. The department offers both B.A. and B.S. degrees. The major and emphasis requirements are the same for both, and most students choose the B.S. degree. The B.A. degree requires 12 additional units of Humanities and Social Sciences courses, and 16 units or a course 4 equivalency level of a foreign language (see College Breadth Requirements).

Major Requirements
1) The major requirements and the emphasis requirements are the same for the B.A. and the B.S. degree in Biochemistry. Choose one emphasis. All upper-division courses presume completion of the life sciences core curriculum.

PROPOSED:

Major
No Change

Note: A maximum of 12 units of 190-199 courses may be counted toward the 180 unit graduation requirement. All courses used towards the Biochemistry major requirements must be taken for letter grades.

Major Requirements
1) No Change

1a) Continuation in the major requires that the student maintains cumulative and upper division/science GPAs of 2.00 or higher, a GPA of 2.00 or higher in each academic quarter, and makes adequate progress in the major with no more than 16 units of repeated courses. Adequate progress in the major is defined as (A) earning no grade lower than a "C-" in any
Medical Sciences Emphasis

1. Lower-division requirements (54-55 units)
   a) BCH 095 or equivalent
   b) BCH 096, BCH 098-I
   c) BIOL 005A, BIOL 05LA, BIOL 005B, BIOL 005C
   d) CHEM 001A, CHEM 001B, CHEM 001C, CHEM 01LA, CHEM 01LB, CHEM 01LC
   e) MATH 008B or MATH 009A, MATH 009B
   f) PHYS 002A, PHYS 002B, PHYS 002C, PHYS 02LA, PHYS 02LB, PHYS 02LC

2. Statistics requirement (5 units): STAT 100A

required lower division mathematics or science course, STAT 100A, CHEM 112A, CHEM 112B, CHEM 112C, or any upper division BCH course, and (B) completing MATH 9B and CHEM 1A by the end of the Fall Quarter of the second year of residence and BCH 110A, BCH 110B, and BCH 110C by the end of the third year of residence. Freshmen must also complete BCH 95 with a grade of “S” during their first year of residence. Freshmen in the Medical Science Emphasis must also complete BCH 96 with a grade of “S” during their first year of residence. A student who does not meet these adequate progress standards will be discontinued from the major. In addition, a student who receives a grade of "D+" or lower in any two of the courses in (A) on the first attempt, or in any one of these courses in each of two attempts, will be discontinued from the major. Students who receive a grade lower than "B-" in BIOL 5A or CHEM 112A are strongly encouraged to complete BCH 100 during their second year of residence to better prepare themselves for BCH 110A, BCH 110B, and BCH 110C.

Medical Sciences Emphasis

1. No change

2. No Change
3. Upper-division requirements (51 units)

a) BCH 101, BCH 102, BCH 110A, BCH 110B, BCH 110C, BCH 120, BCH 184
b) BIOL 102
c) CHEM 109 or CHEM 110A; CHEM 112A, CHEM 112B, CHEM 112C
d) CBNS 101
e) Highly recommended (15 units):
   BIOL 161A, BIOL 161B, BIOL 171

Graduate and upper-division courses can be substituted with permission of the instructor and the faculty advisor. Graduate courses require a GPA of 3.0 or greater in the sciences. Students should be aware that CHEM 005 is often a requirement for admission to professional schools.

Note: A maximum of 12 units of 190-199 courses may be counted toward the 180 Unit graduation requirement. All courses towards the Biochemistry major requirements.

3. Upper-division requirements (59 units)

a) No Change
b) No Change
c) No Change
d) No Change
e) At least 8 units from: BIOL 121, BIOL 161A, BIOL 161B, BIOL 171, CBNS 106, CBNS 150
   No Change

JUSTIFICATION:

Major Requirement:
The proposed discontinuation policy represents an attempt to identify students for whom Biochemistry is an inappropriate major sufficiently early in their academic career that they can be redirected to a more appropriate major in time to complete it.

Major: Move “Note” listed under Medical Science Emphasis in the Catalog and place underneath “Major” so that it reads as a major requirement for ALL emphasis rather than just Medical Science emphasis.

MDSC 3. & 3e:
Because BIOL 161A, BIOL 161B, and BIOL 171 are currently listed as "highly recommended," many students are substituting these courses with non-didactic courses like BCH 190 and BCH 197. To ensure that students in the Medical Sciences Emphasis are appropriately exposed to rigorous medically-related course material, we propose changing (4) to "At least 8 units from BIOL 121, BIOL 161A, BIOL 161B, BIOL 171, CBNS 106, CBNS 150."

APPROVALS:
Approved by the faculty of the Department of Biochemistry: 5/27/10
Approved by the CNSA Executive Committee: 3/1/11
Approved by the Committee on Educational Policy: 4/27/11