To be adopted:

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

<table>
<thead>
<tr>
<th>PRESENT:</th>
<th>PROPOSED:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Biology Emphasis</strong></td>
<td><strong>Biology Emphasis</strong></td>
</tr>
<tr>
<td>1. Lower-division requirements (56-57 units)</td>
<td>1. No change</td>
</tr>
<tr>
<td>a) BCH 095 or equivalent</td>
<td>a) No change</td>
</tr>
<tr>
<td>b) BIOL 005A, BIOL 05LA, BIOL 005B, BIOL 005C</td>
<td>b) No change</td>
</tr>
<tr>
<td>c) CHEM 001A, CHEM 001B, CHEM 001C, CHEM 01LA, CHEM 01LB, CHEM 01LC</td>
<td>c) No change</td>
</tr>
<tr>
<td>d) MATH 008B or MATH 009A, MATH 009B, MATH 046</td>
<td>d) No change</td>
</tr>
<tr>
<td>e) PHYS 002A, PHYS 002B, PHYS 002C, PHYS 02LA, PHYS 02LB, PHYS 02LC</td>
<td>e) No change</td>
</tr>
<tr>
<td>2. Statistics requirement (5 units): STAT 100A</td>
<td>2. No Change</td>
</tr>
<tr>
<td>3. Upper-division requirements (59–65 units)</td>
<td>3. No Change</td>
</tr>
<tr>
<td>a) BCH 101, BCH 102, BCH 110A, BCH 110B, BCH 110C, BCH 184</td>
<td>a) No Change</td>
</tr>
<tr>
<td>b) At least 7 units from BCH 111 BCH 120, BCH 153/BIOL 153/BPSC 153, BCH 162, BCH 180A, BCH 180B, BCH 180C, BCH 183, BCH 186, BCH 187, BCH 210, BCH 211, BCH 212,</td>
<td>b) At least 7 units from BCH 111 BCH 120, BCH 153/BIOL 153/BPSC 153, BCH 162, BCH 180 (E-Z), BCH 183, BCH 186, BCH 187, BCH 210, BCH 211, BCH 212,</td>
</tr>
<tr>
<td>c) BIOL 102</td>
<td>c) No Change</td>
</tr>
<tr>
<td>d) CHEM 109 or CHEM 110A; CHEM 112A, CHEM 112B, CHEM 112C</td>
<td>d) No Change</td>
</tr>
<tr>
<td>e) Choose three biological science courses from the following:</td>
<td>e) No change</td>
</tr>
</tbody>
</table>
4. BCH 190 or BCH 197 are available as elective courses to juniors who have completed BCH 102 and to seniors. No more than 9 units of courses numbered 190-199 may be counted towards the major.

**Chemistry Emphasis**

1. Lower-division requirements (61-62 units)

   a) BCH 095 or equivalent

   b) BIOL 005A, BIOL 05LA, BIOL 005B, BIOL 005C

   c) CHEM 001A, CHEM 001B, CHEM 001C, CHEM 01LA, CHEM 01LB, CHEM 01LC, CHEM 005

   d) MATH 008B or MATH 009A, MATH 009B, MATH 046
2. Statistics requirement (5 units): STAT 100A

3. Upper-division requirements (58–59 units)

   a) BCH 101, BCH 102, BCH 110A, BCH 110B, BCH 110C, BCH 184

   b) At least 7 units from BCH 111, BCH 120, BCH 153/BIOL 153/BPSC 153, BCH 162, BCH 180A, BCH 180B, BCH 180C, BCH 183, BCH 186, BCH 187, BCH 210, BCH 211, BCH 212

   c) BIOL 102

   d) CHEM 109 or CHEM 110A; CHEM 112A, CHEM 112B, CHEM 112C

   e) Two courses from CHEM 110B, CHEM 113, CHEM 125, CHEM 150A, CHEM 150B, CHEM 166 and other graduate courses may be substituted by students with a GPA of 3.00 or better with permission of the instructor and the faculty advisor.

4. BCH 190 or BCH 197 are available as elective courses to juniors who have completed BCH 102 and to seniors. No more than 9 units of must be taken for letter grades.

**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

   e) No change

2. No Change

3. No Change

a) No Change

b) At least 7 units from BCH 111, BCH 120, BCH 153/BIOL 153/BPSC 153, BCH 162, BCH 180(E-Z), BCH 183, BCH 186, BCH 187, BCH 210, BCH 211, BCH 212

c) No Change

d) No Change

e) No Change

4. No Change
2. Statistics requirement (5 units): STAT 100A

3. Upper-division requirements (59 units)
   a) BCH 101, BCH 102, BCH 110A, BCH 110B, BCH 110C, BCH 120, BCH 184
   a) No Change
   b) BIOL 102
   b) No Change
   c) CHEM 109 or CHEM 110A; CHEM 112A, CHEM 112B, CHEM 112C
   c) No Change
   d) CBNS 101
   d) No Change
   e) At least 8 units from: BIOL 121, BIOL 161A, BIOL 161B, BIOL 171, CBNS 106, CBNS 150
   e) No Change

   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.

   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.

JUSTIFICATION: Biology emphasis 3:b, and (1).
Chemistry emphasis 3:b
Renumber BCH 180 ABC to BCH 180 E-Z

The Biochemistry faculty wishes to change BCH 180ABC into a BCH 180(E-Z) course for purpose of expanding the course format to include more subjects and to allow more faculties to participate. It is anticipated that 1-2 of these courses will be offered during each academic quarter.

APPROVALS:

Approved by the faculty of the Department of Biochemistry: 4-9-12

Approved by the Executive Committee of the College of Natural and Agricultural Sciences: 2/26/2013

Approved by the Committee on Educational Policy: 3/12/13