## Academic Plan for a B.S. in Chemistry

### FRESHMAN YEAR

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 151* (or CHEM 141/143*)</td>
<td>CHEM 152* (or CHEM 142/144*)</td>
</tr>
<tr>
<td>MATH 122A/B (or 125) 5 (3)</td>
<td>MATH 129 3</td>
</tr>
<tr>
<td>ENGL 101 3</td>
<td>ENGL 102 3</td>
</tr>
<tr>
<td>TIER 1 3</td>
<td>TIER 1 3 (or 6)</td>
</tr>
<tr>
<td>Total 13-15</td>
<td>Total 13-16</td>
</tr>
</tbody>
</table>

### SOPHOMORE YEAR

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 246A/247A*</td>
<td>CHEM 246B/247B*</td>
</tr>
<tr>
<td>CHEM 380 or MATH 223 3/4</td>
<td>CHEM 395A 1</td>
</tr>
<tr>
<td>PHYS 141 4</td>
<td>PHYS 241 4</td>
</tr>
<tr>
<td>Second Language 4</td>
<td>Second Language 4</td>
</tr>
<tr>
<td>Total 16-17</td>
<td>TIER 1 3</td>
</tr>
<tr>
<td>Total 14-17</td>
<td>Total 14-17</td>
</tr>
</tbody>
</table>

### JUNIOR YEAR in SPAIN

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Instrumental Analysis (F+S)</td>
<td>Instrumental Analysis (F+S)</td>
</tr>
<tr>
<td>Analytical Chemistry (F)</td>
<td>Analytical Lab (F+S)</td>
</tr>
<tr>
<td>Separation Techniques (F)</td>
<td>Bridging Courses in Chemistry (S)</td>
</tr>
<tr>
<td>Analytical Lab (F+S)</td>
<td>Biochemistry (S)</td>
</tr>
</tbody>
</table>

*Note that this is only an example plan. Please work with your advisor and study abroad coordinator to be sure you will meet your degree requirements and prerequisites.

### SENIOR YEAR

<table>
<thead>
<tr>
<th>Fall</th>
<th>Spring</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 480A* 3</td>
<td>CHEM 480B* or 481* 3</td>
</tr>
<tr>
<td>CHEM 400A* 3</td>
<td>CHEM 412* 3</td>
</tr>
<tr>
<td>CHEM Elective* 3/2</td>
<td>CHEM 400B* 3</td>
</tr>
<tr>
<td>TIER 2/Electives 3-9</td>
<td>CHEM Elective* 3/2</td>
</tr>
<tr>
<td>Optional Elective 3</td>
<td>Total 12-15</td>
</tr>
<tr>
<td>Total 12-18</td>
<td>Total 12-15</td>
</tr>
</tbody>
</table>

**TOTAL UNITS NEEDED: 120**

**UPPER DIVISION UNITS NEEDED: 42**

* Denotes grade of C or better required.
~Denotes department consent required to enroll.

Classes in bold are only offered in the fall or spring semester as shown.

Please note that this checklist indicates CHEMBS requirements. Additional coursework not listed on this page is required in order to graduate.

5/7/19
GENERAL EDUCATION COURSES:

i. Freshman Composition (Complete one sequence.)
   ENGL 101 (3) _____ ENGL 102 (3) _____ or
   (ENGL 106*) _____
   ENGL 107 (3) _____ ENGL 108 (3) _____ or
   ENGL 109H (3) _____
   MCWA____

ii. Mathematics: Satisfied by math foundation courses.

iii. Second Language (Second Semester Proficiency)

TIER ONE COURSES:

i. Individuals and Societies 150 (6 units)

ii. Traditions and Cultures 160 (6 units)

TIER TWO COURSES:

i. Arts (3 units)

ii. Humanities (3 units)

iii. Individuals and Societies (3 units)

iv. Diversity Emphasis Requirement: One course must meet this requirement. It can be double-dipped with any Tier One or Tier Two course.

Note: Courses offered only in the fall or spring semesters are labeled with F or S.

*Some students may be required to take ENGL 106 prior to taking ENGL 107. If not, ENGL 107 and ENGL 108 will complete foundation composition requirements.

FOUNDATION COURSES: (17–20 units)

Mathematics
   MATH 122A/B (5) or 125 (3) _____
   MATH 129 (3) _____
   CHEM 380 (3; F) or MATH 223 (4) _____

Physics
   PHYS 141 (4) _____
   PHYS 241 (4) _____

MAJOR COURSES: (55-56 units) Must earn a C or better in all major courses.

General Chemistry
   CHEM 151 (4) _____ CHEM 152 (4) _____
   or
   CHEM 141/143 (4) _____ CHEM 142/144 (4) _____

Organic Chemistry
   CHEM 246A (3; F) _____ CHEM 247A (2; F) _____
   CHEM 246B (3; S) _____ CHEM 247B (2; S) _____

Majors Colloquium
   CHEM 395A (1; S) _____

Biochemistry (Only one course from BIOC 462A or BIOC 384 will satisfy this requirement.)
   BIOC 462A (4; F) _____ or BIOC 384 (3) _____

Quantitative Analysis (Analytical Chemistry)
   CHEM 325 (2) _____ CHEM 326 (2) _____

Instrumental Analysis
   CHEM 401A (3; S) _____ CHEM 400A (3; F) _____

Inorganic Chemistry
   CHEM 404A (3; S) _____ CHEM 412 (3) _____

Physical Chemistry
   CHEM 480A (3) _____ CHEM 400B (3; S) _____
   CHEM 480B (3) or 481 (3; S) _____

Core Electives (A list of options is available in the advisement report or course catalog. A maximum of 3 upper division units in research or preceptorship will apply to the Chemistry major. Only one course from BIOC 462B or BIOC 385 will satisfy this requirement.)
   Course or Lab (3) _________________ _____
   Course or Lab (3) _________________ _____
   Course, Lab, Research or Preceptorship (2) _____

   (A list of options is available in the advisement report or course catalog. A maximum of 3 upper division units in research or preceptorship will apply to the Chemistry major. Only one course from BIOC 462B or BIOC 385 will satisfy this requirement.)

   Course or Lab (3) _________________ _____
   Course or Lab (3) _________________ _____
   Course, Lab, Research or Preceptorship (2) _____