Chemistry Major
with Standard Chemistry Track Worksheet
(Requirements effective Fall 2016)

This chemistry major requires completion thirty-nine (39) units in Chemistry, as follows:

<table>
<thead>
<tr>
<th>Semester/Year Taken</th>
<th>Course</th>
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<tbody>
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</tbody>
</table>

**I. Required Lower Division Courses (21 units):**

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<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>CHEM 111</td>
<td>General Chemistry I (3) + CHEM 112 Lab (1)</td>
</tr>
<tr>
<td>CHEM 113</td>
<td>General Chemistry II (3) + CHEM 114 Lab (1)</td>
</tr>
<tr>
<td>CHEM 230</td>
<td>Organic Chemistry I (3) Lecture</td>
</tr>
<tr>
<td>CHEM 232</td>
<td>Organic Chemistry Lab I (1)</td>
</tr>
<tr>
<td>CHEM 231</td>
<td>Organic Chemistry II (4) Lecture</td>
</tr>
<tr>
<td>CHEM 234</td>
<td>Organic Chemistry Lab II (1)</td>
</tr>
<tr>
<td>CHEM 260</td>
<td>Analytical Chemistry (4) (2 lectures + 2 Labs/wk.)</td>
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**II. Required Upper-division courses (16 units):**

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<tbody>
<tr>
<td>CHEM 340</td>
<td>Physical Chemistry I (4) Lecture</td>
</tr>
<tr>
<td>CHEM 341</td>
<td>Physical Chemistry II (4) Lecture</td>
</tr>
<tr>
<td>CHEM 350</td>
<td>Biochemistry I (4) Lecture OR CHEM 356 Fundamentals of Biochemistry (4) Lecture</td>
</tr>
<tr>
<td>CHEM 420</td>
<td>Inorganic Chemistry (4) (3 Lectures + 2 Labs/wk.)</td>
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**III. Additional courses (2 units minimum):**

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<tbody>
<tr>
<td>CHEM 397</td>
<td>Research Methods &amp; Practice (1) (Can be repeated for a maximum of 4 units)</td>
</tr>
<tr>
<td>CHEM 410</td>
<td>Integrated Lab (2-4) Lecture + Lab</td>
</tr>
<tr>
<td>CHEM XXX</td>
<td>Chemistry Elective (4)</td>
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**IV. Required supporting courses (16 units):**

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<tbody>
<tr>
<td>MATH 109</td>
<td>Calculus and Analytic Geometry I (4) Lecture</td>
</tr>
<tr>
<td>MATH 110</td>
<td>Calculus and Analytic Geometry II (4) Lecture</td>
</tr>
<tr>
<td>PHYS 110</td>
<td>General Physics I (4) Lecture + Lab</td>
</tr>
<tr>
<td>PHYS 210</td>
<td>General Physics II (4) Lecture + Lab</td>
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</table>

**ACS certification requires these additional courses:**

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<tbody>
<tr>
<td>CHEM 410</td>
<td>Integrated Lab (4) Lecture + Lab</td>
</tr>
<tr>
<td>CHEM 397</td>
<td>Research Methods &amp; Practice (1) (Can be repeated for a maximum of 4 units)</td>
</tr>
</tbody>
</table>