B.S. IN CHEMISTRY

College of the Sciences and Mathematics

Curriculum

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GENERAL EDUCATION REQUIREMENTS (<a href="http://catalog.wcupa.edu/undergraduate/general-education-requirements/">http://catalog.wcupa.edu/undergraduate/general-education-requirements/</a>)</td>
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</tr>
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</table>

**Academic Foundations**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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<tbody>
<tr>
<td>First Year Experience</td>
<td>4</td>
</tr>
<tr>
<td>English Composition</td>
<td>6-7</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3-4</td>
</tr>
<tr>
<td>Interdisciplinary</td>
<td>3</td>
</tr>
<tr>
<td>Diverse Communities</td>
<td>3</td>
</tr>
<tr>
<td>Ethics</td>
<td>3</td>
</tr>
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**Distributed Disciplinary Foundations**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Science</td>
<td>6-8</td>
</tr>
<tr>
<td>Behavioral &amp; Social Science</td>
<td>6</td>
</tr>
<tr>
<td>Humanities</td>
<td>6</td>
</tr>
<tr>
<td>Arts</td>
<td>3</td>
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</table>

**ADDITIONAL BACCALAUREATE REQUIREMENTS** (http://catalog.wcupa.edu/undergraduate/general-education-requirements/)

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Writing Emphasis</td>
<td>9</td>
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<tr>
<td>Speaking Emphasis</td>
<td>9</td>
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**University Requirements**

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capstone</td>
<td>1-15</td>
</tr>
</tbody>
</table>

**MAJOR REQUIREMENTS**

**Core Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 103</td>
<td>General Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHE 104</td>
<td>General Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>CHE 231</td>
<td>Organic Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHE 232</td>
<td>Organic Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>CHE 321</td>
<td>Analytical Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHE 418</td>
<td>Chemical Information</td>
<td>1</td>
</tr>
<tr>
<td>CHE 476</td>
<td>Biochemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CRL 103</td>
<td>General Chemistry I Lab</td>
<td>1</td>
</tr>
<tr>
<td>CRL 104</td>
<td>General Chemistry II Lab</td>
<td>1</td>
</tr>
<tr>
<td>CRL 231</td>
<td>Organic Chemistry I Lab</td>
<td>2</td>
</tr>
<tr>
<td>CRL 321</td>
<td>Analytical Chemistry I Lab</td>
<td>2</td>
</tr>
<tr>
<td>PHY 170</td>
<td>Physics I</td>
<td>4</td>
</tr>
<tr>
<td>PHY 180</td>
<td>Physics II</td>
<td>4</td>
</tr>
<tr>
<td>BIO 110</td>
<td>General Biology I</td>
<td>3-4</td>
</tr>
<tr>
<td>or CSC 141</td>
<td>Computer Science I</td>
<td></td>
</tr>
<tr>
<td>MAT 161</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MAT 162</td>
<td>Calculus II</td>
<td>4</td>
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</table>

**Other Required Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 341</td>
<td>Physical Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHE 342</td>
<td>Physical Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>CHE 411</td>
<td>Advanced Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHE 424</td>
<td>Advanced Analytical Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CRL 232</td>
<td>Organic Chemistry II Lab</td>
<td>2</td>
</tr>
<tr>
<td>CRL 341</td>
<td>Physical Chemistry I Lab</td>
<td>2</td>
</tr>
<tr>
<td>CRL 342</td>
<td>Physical Chemistry II Lab</td>
<td>2</td>
</tr>
<tr>
<td>CRL 411</td>
<td>Inorganic Syntheses Lab</td>
<td>2</td>
</tr>
<tr>
<td>CRL 424</td>
<td>Analytical Chemistry II Lab</td>
<td>2</td>
</tr>
</tbody>
</table>

Lab safety exam must be passed before application for graduation. See advisor for more information.

**Chemistry Electives**

<table>
<thead>
<tr>
<th>Group</th>
<th>Electives</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>CHE 333 Advanced Organic Chemistry or CHE 477 Biochemistry II</td>
<td>3</td>
</tr>
<tr>
<td>B</td>
<td>Select 6 semester hours from upper-division chemistry courses</td>
<td>6</td>
</tr>
</tbody>
</table>

**Capstone Requirement**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 491</td>
<td>Seminar in Chemistry</td>
<td>1</td>
</tr>
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</table>

**Total Minimum Credits Required**

<table>
<thead>
<tr>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>120</td>
</tr>
</tbody>
</table>

1 A grade of C- or better is necessary in all required science and mathematics courses.

2 This course fulfills the Capstone requirement.

**Sample Course Plan**

To track their individual degree progress, students are advised to access their Degree Progress Report (DPR) via myWCU regularly. For more information, visit wcupa.edu/DegreeProgressReport (http://wcupa.edu/degreeprogressreport/).

The following is a sample suggested course sequence for this program; course offerings and availability are not guaranteed. Students should consult their academic advisor with any questions.

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year One</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHE 103 &amp; CRL 103</td>
<td>General Chemistry I and General Chemistry I Lab</td>
<td>4</td>
</tr>
<tr>
<td>MAT 161 &amp; CRL 103</td>
<td>Calculus I and General Chemistry I Lab</td>
<td>4</td>
</tr>
<tr>
<td>WRT 120</td>
<td>Effective Writing I</td>
<td>3</td>
</tr>
<tr>
<td>FYE 100X</td>
<td>First Year Experience</td>
<td>4</td>
</tr>
<tr>
<td>Credits</td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

| Spring | | |
| CHE 104 & CRL 104 | General Chemistry II and General Chemistry II Lab | 4 |
| MAT 162 | Calculus II | 4 |
| WRT 2XX | 200-Level WRT Course | 3 |
| Behavioral & Social Science Gen Ed | | 3 |
| Credits | | 14 |

| Year Two | | |
| Fall | | |
| CHE 231 & CRL 231 | Organic Chemistry I and Organic Chemistry I Lab | 6 |
| CHE 321 & CRL 321 | Analytical Chemistry I and Analytical Chemistry I Lab | 5 |
| PHY 170 | Physics I | 4 |
| Credits | | 15 |

| Spring | | |
| CHE 232 & CRL 232 | Organic Chemistry II and Organic Chemistry II Lab | 5 |
| CSC 141 | Computer Science I | 3 |
| PHY 180 | Physics II | 4 |
| Arts Gen Ed | | 3 |
| Department Safety Examination | | |
| Credits | | 15 |
Year Three

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 341</td>
<td>Physical Chemistry I</td>
</tr>
<tr>
<td>&amp; CRL 341</td>
<td>and Physical Chemistry I Lab</td>
</tr>
<tr>
<td>CHE 409</td>
<td>Descriptive Inorganic Chemistry</td>
</tr>
<tr>
<td>CHE 418</td>
<td>Chemical Information</td>
</tr>
<tr>
<td></td>
<td>Humanities Gen Ed</td>
</tr>
<tr>
<td></td>
<td>Behavioral &amp; Social Science Gen Ed</td>
</tr>
<tr>
<td><strong>Credits</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 342</td>
<td>Physical Chemistry II</td>
</tr>
<tr>
<td>&amp; CRL 342</td>
<td>and Physical Chemistry II Lab</td>
</tr>
<tr>
<td>CHE 424</td>
<td>Advanced Analytical Chemistry</td>
</tr>
<tr>
<td>&amp; CRL 424</td>
<td>and Analytical Chemistry II Lab</td>
</tr>
<tr>
<td>CHE XXX</td>
<td>Chemistry Elective (Group A)</td>
</tr>
<tr>
<td></td>
<td>Humanities Gen Ed</td>
</tr>
<tr>
<td><strong>Credits</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

Year Four

<table>
<thead>
<tr>
<th>Fall</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 476</td>
<td>Biochemistry I</td>
</tr>
<tr>
<td>CHE 491</td>
<td>Seminar in Chemistry</td>
</tr>
<tr>
<td>CHE XXX</td>
<td>Chemistry Elective (Group B)</td>
</tr>
<tr>
<td></td>
<td>Student Electives</td>
</tr>
<tr>
<td><strong>Credits</strong></td>
<td><strong>13</strong></td>
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</table>

<table>
<thead>
<tr>
<th>Spring</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHE 411</td>
<td>Advanced Inorganic Chemistry</td>
</tr>
<tr>
<td>&amp; CRL 411</td>
<td>and Inorganic Syntheses Lab</td>
</tr>
<tr>
<td>CHE XXX</td>
<td>Chemistry Elective (Group B)</td>
</tr>
<tr>
<td></td>
<td>Interdisciplinary Gen Ed</td>
</tr>
<tr>
<td></td>
<td>Student Electives</td>
</tr>
<tr>
<td><strong>Credits</strong></td>
<td><strong>16</strong></td>
</tr>
</tbody>
</table>

**Total Credits** 120

1 Group A chemistry electives include CHE 333 and CHE 477.
2 Group B chemistry electives include any approved 300/400-level elective in chemistry.