## MINOR IN CHEMISTRY

The Department of Chemistry offers a minor in Chemistry to interested students from other disciplines. The program serves to broaden the academic background of students seeking employment in fields related to chemistry.

### Requirements

**Effective Fall 2020**

A minimum grade of C- is required in all of the courses required for the minor. Students must satisfactorily complete the total credits required for the minor. Minors and interdisciplinary minors require 12 or more upper-division (300- to 400-level) credits.

Additional coursework may be required due to prerequisites.

### Code

<table>
<thead>
<tr>
<th>Lower Division</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td><strong>Choose one group from the following:</strong></td>
<td></td>
<td>9-10</td>
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<tr>
<td><strong>Group A</strong></td>
<td></td>
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</tr>
<tr>
<td>CHEM 111</td>
<td>General Chemistry I (GT-SC2)</td>
<td></td>
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<tr>
<td>or CHEM 107</td>
<td>Fundamentals of Chemistry (GT-SC2)</td>
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<tr>
<td>CHEM 112</td>
<td>General Chemistry Lab I (GT-SC1)</td>
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<tr>
<td>or CHEM 108</td>
<td>Fundamentals of Chemistry Laboratory (GT-SC1)</td>
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<tr>
<td>CHEM 113</td>
<td>General Chemistry II</td>
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<tr>
<td>CHEM 114</td>
<td>General Chemistry Lab II</td>
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<tr>
<td><strong>Group B</strong></td>
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<tr>
<td>CHEM 120</td>
<td>Foundations of Modern Chemistry (GT-SC2)</td>
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<td>CHEM 121</td>
<td>Foundations of Modern Chemistry Laboratory (GT-SC1)</td>
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<tr>
<td>CHEM 231</td>
<td>Foundations of Analytical Chemistry</td>
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<tr>
<td>CHEM 232</td>
<td>Foundations of Analytical Chemistry Laboratory</td>
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<thead>
<tr>
<th>Upper Division</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Select a minimum of 15 credits from the following courses from at least two different areas of chemistry - analytical, biological, inorganic, organic, and physical; at least 12 credits must be upper-division courses (300-499).</td>
<td>15</td>
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### Analytical

- CHEM 231 Foundations of Analytical Chemistry
- CHEM 232 Foundations of Analytical Chemistry Laboratory
- CHEM 334 Quantitative Analysis Laboratory
- CHEM 335 Introduction to Analytical Chemistry
- CHEM 338 Environmental Chemistry
- CHEM 431 Instrumental Analysis
- CHEM 433 Clinical Chemistry

### Biological

- CHEM 320 Chemistry of Addictions
- CHEM 321 Foundations of Chemical Biology
  - or BC 351 Principles of Biochemistry
  - or BC 401 Comprehensive Biochemistry I
  - or BC 403 Comprehensive Biochemistry II
- CHEM 322 Foundations of Chemical Biology Laboratory

### Inorganic

- CHEM 261 Fundamentals of Inorganic Chemistry
- CHEM 263 Foundations of Inorganic Chemistry Laboratory
- CHEM 264 Fundamentals of Inorganic Chemistry Laboratory
- CHEM 311 Introduction to Nanoscale Science
- CHEM 461 Inorganic Chemistry
- CHEM 462 Inorganic Chemistry Laboratory

### Organic

- CHEM 241 Foundations of Organic Chemistry
- CHEM 242 Foundations of Organic Chemistry Laboratory
- CHEM 245 Fundamentals of Organic Chemistry
- CHEM 246 Fundamentals of Organic Chemistry Laboratory
- CHEM 341 Modern Organic Chemistry I
- CHEM 343 Modern Organic Chemistry II
- CHEM 344 Modern Organic Chemistry Laboratory
- CHEM 345 Organic Chemistry I
- CHEM 346 Organic Chemistry II
- CHEM 440 Advanced Organic Chemistry Laboratory
- CHEM 445 Synthetic Organic Chemistry

### Physical

- CHEM 371 Fundamentals of Physical Chemistry
- CHEM 372 Fundamentals of Physical Chemistry Laboratory
- CHEM 473 Foundations of Physical Chemistry
  - or BC 411 Physical Biochemistry
- CHEM 474 Physical Chemistry I
- CHEM 475 Physical Chemistry Laboratory I
- CHEM 476 Physical Chemistry II
- CHEM 477 Physical Chemistry Laboratory II

### Program Total Credits: 24-25

1. At least two of these courses must include a laboratory. No more than three of the 15 upper-division chemistry credits may be fulfilled by CHEM 301, CHEM 384, CHEM 487, CHEM 493, CHEM 495, or CHEM 498. These courses may not fulfill the area nor the laboratory requirement, except for CHEM 498 which may satisfy the lab requirement.

2. The following courses may count as laboratory: CHEM 232, CHEM 242, CHEM 264, CHEM 322, CHEM 334, CHEM 344, CHEM 345,CHEM 346, CHEM 372, CHEM 431, CHEM 433, CHEM 440, CHEM 462, CHEM 475, CHEM 477, CHEM 498 (up to three credits only).