BS in Chemistry

Program Codes: 20FT0335BS

Degree Requirements
To earn a Bachelor of Science in Chemistry degree from UIC, students need to complete university, college, and department degree requirements. The Department of Chemistry degree requirements are outlined below. Students should consult the College of Liberal Arts and Sciences section for additional degree requirements and college academic policies.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGL 160</td>
<td>Academic Writing I: Writing in Academic and Public Contexts</td>
<td>3</td>
</tr>
<tr>
<td>ENGL 161</td>
<td>Academic Writing II: Writing for Inquiry and Research</td>
<td>3</td>
</tr>
<tr>
<td>Physics (the equivalent of two years of a single language at the college level)</td>
<td>0-16</td>
<td></td>
</tr>
<tr>
<td>Exploring World Cultures course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Understanding the Creative Arts course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Understanding the Individual and Society course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Understanding the Past course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Understanding U.S. Society course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MATH 180</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 181</td>
<td>Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 210</td>
<td>Calculus III</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 141</td>
<td>General Physics I (Mechanics)</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 142</td>
<td>General Physics II (Electricity and Magnetism)</td>
<td>4</td>
</tr>
<tr>
<td>Select one of the following sequences in general and analytical chemistry:</td>
<td>10-14</td>
<td></td>
</tr>
<tr>
<td>CHEM 116</td>
<td>Honors and Majors General and Analytical Chemistry</td>
<td>c,d</td>
</tr>
<tr>
<td>CHEM 118</td>
<td>Honors and Majors General and Analytical Chemistry II</td>
<td>c,d</td>
</tr>
<tr>
<td>OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 122</td>
<td>General Chemistry I Lecture</td>
<td>b</td>
</tr>
<tr>
<td>CHEM 123</td>
<td>General Chemistry Laboratory I</td>
<td>c,e</td>
</tr>
<tr>
<td>CHEM 124</td>
<td>General Chemistry Laboratory I</td>
<td>c,e</td>
</tr>
<tr>
<td>CHEM 125</td>
<td>General Chemistry Laboratory II</td>
<td>c,e</td>
</tr>
<tr>
<td>CHEM 222</td>
<td>Analytical Chemistry</td>
<td></td>
</tr>
</tbody>
</table>

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<td>CHEM 222</td>
<td>Analytical Chemistry</td>
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</tbody>
</table>

Select one of the following advanced lecture courses: 2
- CHEM 414 Advanced Inorganic Chemistry
- CHEM 432 Advanced Organic Chemistry
- CHEM 444 Spectroscopy in Chemistry and Biochemistry

Select one of the following advanced laboratory courses: 3
- CHEM 415 Inorganic Chemistry Laboratory
- CHEM 455 Biochemistry Laboratory
- CHEM 499 Supervised Research

Electives at the 300-level or above in the natural sciences or mathematics, as approved by the departmental advisor 3

<table>
<thead>
<tr>
<th>Electives</th>
<th>Total Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>7-27</td>
</tr>
</tbody>
</table>

| Total Hours | 120 |

Recommended Plan of Study
Chemistry is a highly structured discipline. Because most advanced courses require physical chemistry as a prerequisite, which in turn requires prerequisites of general chemistry, physics, and mathematics, careful course planning is essential. It is best to start with mathematics and general chemistry in the first year, followed by organic chemistry and physics in the second year, and physical chemistry in the third year. Consult the Biochemistry section for more information on the BS in Biochemistry.

Note: Students who are not ready to start with MATH 180 and CHEM 122/123 should expect to take summer session courses and/or take longer than four years to graduate.

<table>
<thead>
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<td>3</td>
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<tr>
<td>MATH 180</td>
<td>Calculus I</td>
<td>4</td>
</tr>
</tbody>
</table>

Select one of the following:
- CHEM 232 Organic Chemistry I 4
- CHEM 233 Organic Chemistry Laboratory I 2
- CHEM 234 Organic Chemistry II 4
- CHEM 314 Inorganic Chemistry 4
- CHEM 333 Advanced Synthetic Laboratory 3
- CHEM 342 Physical Chemistry I 3
- CHEM 343 Physical Chemistry Laboratory f 3
- CHEM 346 Physical Chemistry II 3
- CHEM 402 Chemical Information Systems 2
- CHEM 421 Instrumental Analysis 3
- CHEM 452 Biochemistry I 4

Fall Semester
- CHEM 116 Honors and Majors General and Analytical Chemistry
- CHEM 118 Honors and Majors General and Analytical Chemistry II
- CHEM 122 General Chemistry I Lecture
- CHEM 123 General Chemistry Laboratory I
- CHEM 124 General Chemistry Laboratory II
- CHEM 125 General Chemistry Laboratory II
- CHEM 222 Analytical Chemistry
- ENGL 160 Academic Writing I: Writing in Academic and Public Contexts
- MATH 180 Calculus I

Select one of the following:
- MATH 180 Calculus I 4
- CHEM 116 Honors and Majors General and Analytical Chemistry
- CHEM 118 Honors and Majors General and Analytical Chemistry II
- CHEM 122 General Chemistry I Lecture
- CHEM 123 General Chemistry Laboratory I
- CHEM 124 General Chemistry Laboratory II
- CHEM 125 General Chemistry Laboratory II

Above chemistry and physics in the second year, and physical chemistry in the third year. Consult the Biochemistry section for more information on the BS in Biochemistry.

Note: Students who are not ready to start with MATH 180 and CHEM 122/123 should expect to take summer session courses and/or take longer than four years to graduate.
### General Education Requirement course

- Honors and Majors General and Analytical Chemistry I
- General Chemistry I Lecture and General Chemistry Laboratory I
- General Chemistry II Lecture and General Chemistry Laboratory II
- Academic Writing II: Writing for Inquiry and Research
- Calculus II
- Honors and Majors General and Analytical Chemistry II
- General Physics I (Mechanics)
- Organic Chemistry Laboratory I
- Inorganic Chemistry
- Physical Chemistry I
- Calculus III
- Physical Chemistry Laboratory

### Hours

- 3
- 4
- 2
- 3
- 4
- 4
- 3

### Total Hours

- 15

### Spring Semester

- ENGL 161
- MATH 181
- Select one of the following:
  - CHEM 118
  - CHEM 124 & CHEM 125

### Fall Semester

- CHEM 222
- CHEM 232
- CHEM 233
- PHYS 141

### Hours

- 4
- 4
- 2
- 4

### Total Hours

- 14

### Second Year

#### Fall Semester

- CHEM 222
- CHEM 232
- CHEM 233
- PHYS 141
- Foreign Language

#### Spring Semester

- CHEM 234
- CHEM 333
- PHYS 142

#### Hours

- 4
- 3
- 4

#### Total Hours

- 15

### Third Year

#### Fall Semester

- CHEM 314
- CHEM 342
- MATH 210

#### Spring Semester

- CHEM 346
- CHEM 452

#### Hours

- 4
- 3
- 3

#### Total Hours

- 17

### Fourth Year

#### Fall Semester

- CHEM 343
- CHEM 402

#### Hours

- 3
- 2

### Total Hours

- 17

### Notes

- **CHEM 116 and CHEM 342** are offered fall semester only.
- **CHEM 118 and CHEM 346** are offered spring semester only.
- **Students who take CHEM 116 and CHEM 118** to fulfill the general chemistry requirement do not need to take CHEM 222.
- **CHEM 343** fulfills the LAS Writing-in-the-Discipline requirement.