Chemistry examines the composition, structure, properties, and changes to stuff at the nanometer scale; this is the molecular and atomic scale. Chemists understand the world in terms of how these molecular and atomic units interact: Are the molecules bound to one another? Does one molecule effect how fast a chemical reaction happens? How does molecular component X interact with light in the fingernail polish formulation Y-126 after the brushed film dries on the cuticle? And a zillion other questions around which we can modify outcomes by modifying molecules. Often working to answer these questions can be very lucrative. Chemists have advanced understanding in everything from life to matter in outer space to probable extraterrestrial life in terms of atomic and molecular components. In very basic terms chemistry is the central argument in many other sciences and professions; an education in Chemistry opens many doors.

Freshman Year

**FALL SEMESTER**
- CHE 105 - GENERAL COLLEGE CHEMISTRY I - 4
- CHE 111 - LABORATORY TO ACCOMPANY GENERAL CHEMISTRY I - 1
- UK 101 - ACADEMIC ORIENTATION - 1
- UK Core - Comp. & Comm. I - 3
- Pre-Major Math Selection - 5
- UK Core - Arts and Creativity - 3

**TOTAL HOURS: 16**

**SPRING SEMESTER**
- CHE 107 - GENERAL COLLEGE CHEMISTRY II - 3
- CHE 113 - LABORATORY TO ACCOMPANY GENERAL CHEMISTRY II - 2
- UK Core - Comp. & Comm. II - 3
- Pre-Major Math Selection - 5
- UK Core - Humanities - 3

**TOTAL HOURS: 15**

Total Freshman Hours: 31

Sophomore Year

**FALL SEMESTER**
- MA 213 - CALCULUS III - 4
- CHE 226 - ANALYTICAL CHEMISTRY - 3
- CHE 230 - ORGANIC CHEMISTRY I - 3
- PHY 231 - GENERAL UNIVERSITY PHYSICS - 4
- PHY 241 - GENERAL UNIVERSITY PHYSICS LABORATORY - 1

**TOTAL HOURS: 15**

**SPRING SEMESTER**
- MA 322 - MATRIX ALGEBRA AND ITS APPLICATIONS - 3
- CHE 231 - ORGANIC CHEMISTRY LABORATORY I - 1
- CHE 232 - ORGANIC CHEMISTRY II - 3
- PHY 232 - GENERAL UNIVERSITY PHYSICS - 4
- PHY 242 - GENERAL UNIVERSITY PHYSICS LABORATORY - 1
- UK Core - Social Sciences - 3

**TOTAL HOURS: 15**

Total Sophomore Hours: 30

Junior Year

**FALL SEMESTER**
- WRD 310 - WRITING IN THE NATURAL SCIENCES - 3
- CHE 532 - SPECTROMETRIC IDENTIFICATION OF ORGANIC MOLECULES - 2
- CHE 547 - PRINCIPLES OF PHYSICAL CHEMISTRY I - 3

**SPRING SEMESTER**
- CHE 410G - INORGANIC CHEMISTRY - 2
- CHE 441 - PHYSICAL CHEMISTRY LABORATORY - 2
- CHE 442G - THERMODYNAMICS AND KINETICS - 3
- CHE 533 - ADVANCED ORGANIC CHEMISTRY
<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foreign Language 101</td>
<td>4</td>
</tr>
<tr>
<td>UK Core - Statistical Inferential Reason</td>
<td>3</td>
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<tr>
<td><strong>TOTAL HOURS: 15</strong></td>
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</table>

<table>
<thead>
<tr>
<th>Course</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>LABORATORY</td>
<td>2</td>
</tr>
<tr>
<td>Foreign Language 102</td>
<td>4</td>
</tr>
<tr>
<td>UK Core - Community, Culture and Citizen</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL HOURS: 16</strong></td>
<td></td>
</tr>
</tbody>
</table>

Total Junior Hours: 31

### Senior Year

#### FALL SEMESTER
- CHE 412 - INORGANIC CHEMISTRY LABORATORY: 2
- CHE 422 - INSTRUMENTAL ANALYSIS: 4
- CHE 550 - BIOLOGICAL CHEMISTRY I: 3
- Foreign Language 201: 3
- Major Field Option Selection: 3
- A&S Humanities (100+ level): 3

**TOTAL HOURS: 18**

#### SPRING SEMESTER
- Major Field Option Selection: 3
- A&S Social Sciences (100+ level): 3
- UK Core - Global Dynamics: 3
- A&S Approved Elective (100+ level): 3
- A&S Approved Elective (100+ level): 3

**TOTAL HOURS: 18**

Total Senior Hours: 36

Total Minimum hours Required for Degree: 123 hours

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