# Chemistry Major

**Year 1**

<table>
<thead>
<tr>
<th>Fall</th>
<th>January</th>
<th>Spring</th>
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<tbody>
<tr>
<td>CHEM-111 General Chemistry I</td>
<td></td>
<td>CHEM-113 General Chemistry II</td>
</tr>
<tr>
<td>MATH-121 Calculus I</td>
<td></td>
<td>MATH-122 Calculus II</td>
</tr>
<tr>
<td>All necessary labs</td>
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<td>All necessary labs</td>
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**Year 2**

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<tr>
<th>Fall</th>
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<tbody>
<tr>
<td>CHEM-311 Organic Chemistry I</td>
<td></td>
<td>CHEM-312 Organic Chemistry II</td>
</tr>
<tr>
<td>PHYS-210 General Physics I</td>
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<td>PHYS-220 General Physics II</td>
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<tr>
<td>All necessary labs</td>
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<td>All necessary labs</td>
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**Year 3**

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<tr>
<th>Fall</th>
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<tbody>
<tr>
<td>CHEM-341 Physical Chemistry I</td>
<td></td>
<td>CHEM-342 Physical Chemistry II</td>
</tr>
<tr>
<td>400-level Lecture*</td>
<td></td>
<td></td>
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<tr>
<td>400-level Lab*</td>
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<tr>
<td>Necessary lab</td>
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<td>Necessary lab</td>
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**Year 4**

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<tr>
<th>Fall</th>
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<tbody>
<tr>
<td>400-level Lecture*</td>
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<tr>
<td>400-level Lab*</td>
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</tbody>
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**Semester Hours**

- 50 Chemistry Major
- 46 Core
- 24 Electives
- 120 Required
Chemistry at Manchester University

**General**
- Research experiences both on campus and off
- Academic advising with faculty
- Academic science clubs
- Science seminar
- Mentors for shadowing experiences

**Recent Chemistry Graduate Paths**
- Graduate school
- Physician
- Dentist
- Pharmacist
- Industry
- High school teaching

Chemistry after Manchester University

**General**
- Industrial research chemist
- Teaching (high school, college)
- Industrial analysis
- Industrial instrumentation
- Pharmaceutical research
- Forensic chemistry (crime lab)
- Science journalism
- Industrial by product utilization
- Pollution testing and control
- Government laboratories
- National Institute of Health
- Environmental Protection Agency
- Regional laboratories
- Private laboratories
- Battelle Institute
- Polymer research

**Physics Emphasis**
- Semiconductor research
- Industrial physical chemistry
- Chemical instrumentation development
- Industrial spectroscopy
- Instrument service and repair
- Research on superconductors

**Biology Emphasis**
- Agricultural chemistry
- Biomedical instrumentation
- Biomedical Clinical chemistry
- Biomedical Clinical Dentistry
- Dentistry
- Food processing industry
- Industrial Hygiene
- Medical research
- Medical technology
- Medicine
- Nursing
- Nutrition
- Podiatry (DPM)
- Pollution testing and control
- Population control research
- Veterinary medicine
- Selective pest control

**Language Emphasis**
- Computer applications
- Chemical library service
- Chemical patent practice
- Multinational corporations
- Translating chemical literature