# Biology-Chemistry Major (Fast Forward) from 2-Year Pre-Pharmacy

## Year 1

<table>
<thead>
<tr>
<th>Fall</th>
<th>January</th>
<th>Spring</th>
</tr>
</thead>
<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-210  Statistical Analysis</td>
</tr>
<tr>
<td>BIOL-204  Fundamentals of Human</td>
<td></td>
<td>BIOL-202  Fundamentals of Human</td>
</tr>
<tr>
<td>Physiology</td>
<td></td>
<td>Anatomy</td>
</tr>
<tr>
<td>FYS  First Year Seminar</td>
<td></td>
<td>COMM-110  Communication</td>
</tr>
<tr>
<td>All necessary labs</td>
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<td>All necessary labs</td>
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</tbody>
</table>

## Year 2

<table>
<thead>
<tr>
<th>Fall</th>
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<th>Spring</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-111  College Physics I or</td>
<td></td>
<td>PHYS-112  College Physics II or</td>
</tr>
<tr>
<td>PHYS-210  General Physics I</td>
<td></td>
<td>PHYS-220  General Physics II</td>
</tr>
<tr>
<td>BIOL-229  Introduction to Molecular Biology</td>
<td></td>
<td>BIOL-313  Microbiology</td>
</tr>
<tr>
<td>All necessary labs</td>
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## Year 3

<table>
<thead>
<tr>
<th>Fall</th>
<th>January</th>
<th>Spring</th>
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</thead>
<tbody>
<tr>
<td>CHEM-405  Biochemistry I (Lab)</td>
<td></td>
<td>BIOL-422  Advanced Human Physiology</td>
</tr>
<tr>
<td>(BIOL-431  Immunology)</td>
<td></td>
<td>(CHEM-406  Biochemistry II)</td>
</tr>
<tr>
<td>(BIOL-360  Genetics)</td>
<td></td>
<td>CHEM-235  Analytical Chemistry</td>
</tr>
<tr>
<td>(BIOL-332  DNA Science)</td>
<td></td>
<td>(BIOL-356  Cell Biology)</td>
</tr>
<tr>
<td>Necessary Labs</td>
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<td>All necessary labs</td>
</tr>
</tbody>
</table>

*Take admissions tests in spring or summer.*

## Notes

1. Students must take BIOL-360 Genetics, BIOL-431 Immunology, BIOL-365 Cell Biology, or BIOL-332 DNA Science.

2. The Manchester University Pharmacy Program requires that the core courses taken include one in economics, two in humanities (literature, art, philosophy, religion), one in social sciences (sociology, psychology, history) and one labeled “global connections.” Students are advised to consult the entrance requirements of the pharmacy school(s) to which application is intended.

## Semester Hours

- 55-58  Biology-Chemistry Major
- 46  Core
- 16-19  Electives
- 120  Required
Biology-Chemistry at Manchester University

The Biology-Chemistry Major:
- General Chemistry I and II
- Principles of Biology I and II
- (Calculus I and II)
- College or General Physics I and II
- Organic Chemistry I and II
- Analytical Chemistry
- Introduction to Molecular Biology
- Microbiology or Cell Biology
- Biochemistry I (and II)
- Advanced Human Physiology
- Comparative Vertebrate Anatomy

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

After Graduation
- Acceptance rates to medical, dental, vet, and pharmacy schools are high.
- Admission to graduate programs for master and doctorate degrees in a wide variety of science fields.
- Employment with bachelor’s degree.