# BIOCHEMISTRY MAJOR

## Tracks

### General track

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Required Courses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 4221 &amp; CHEM 4231</td>
<td>Biochemistry I and Biochemistry Lab I</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 4222</td>
<td>Biochemistry II</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 3141</td>
<td>Methods of Biochemical Research (also fulfills Eloquentia Perfecta 3 requirement for the Core Curriculum)</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 4251</td>
<td>Physical and Computational Models of Biochemical Systems</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 4030</td>
<td>Chemistry Seminar (taken in both semesters of junior and senior years, four times total)</td>
<td>0</td>
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Select one of the following (Rose Hill students take BISC; Lincoln Center students take NSCI):

- BISC 2539 & BISC 2549: General Genetics and General Genetics Lab
- NSCI 3133: Genetics Lecture

Select one of the following (Rose Hill students take BISC; Lincoln Center students take NSCI): 3 to 5

- BISC 3752: Molecular Biology
- NSCI 4176 & NSCI 4876: Molecular Biology Lecture and Molecular Biology Lab

### Elective Courses

Select two of the following: 6 to 12

- BISC 3132 & BISC 3142: Human Physiology and Human Physiology Lab
- BISC 3754/NSCI 3154: Cell Biology (Rose Hill students take BISC; Lincoln Center students take NSCI)
- BISC 3893: Introduction to Virology
- BISC 4530: Cancer Biology and Signaling
- CHEM 3621 & CHEM 3631: Physical Chemistry I and Physical Chemistry Lab I
- CHEM 3622 & CHEM 3632: Physical Chemistry II and Physical Chemistry Lab II
- CHEM 3721 or CHEM 3722: Quantitative Analysis or Instrumental Analysis
- CHEM 4241: Biomimetic Chemistry
- CHEM 4261: Bionanotechnology and Introduction to Nanomedicine
- NSCI 4081: Neurochemistry

### American Chemical Society (ACS) track

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<td>CHEM 3721 or CHEM 3722</td>
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</tr>
<tr>
<td>CHEM 4422</td>
<td>Inorganic Chemistry</td>
<td>3</td>
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Select one of the following: 6

- CHEM 3621 & CHEM 3631: Physical Chemistry I and Physical Chemistry Lab I
- CHEM 3622 & CHEM 3632: Physical Chemistry II and Physical Chemistry Lab II

Select one of the following (Rose Hill students take BISC; Lincoln Center students take NSCI): 3 to 5

- BISC 2539 & BISC 2549: General Genetics and General Genetics Lab
- NSCI 3133: Genetics Lecture

Select one of the following (Rose Hill students take BISC; Lincoln Center students take NSCI): 3 to 5

- BISC 3752: Molecular Biology
- NSCI 4176 & NSCI 4876: Molecular Biology Lecture and Molecular Biology Lab

### Elective Courses

Select one of the following: 3 to 5

- BISC 3132 & BISC 3142: Human Physiology and Human Physiology Lab
- BISC 3754/NSCI 3154: Cell Biology (Rose Hill students take BISC; Lincoln Center students take NSCI)
- BISC 3893: Introduction to Virology
- BISC 4530: Cancer Biology and Signaling
- CHEM 3141: Methods of Biochemical Research (also fulfills Eloquentia Perfecta 3 requirement for the Core Curriculum)
- CHEM 4241: Biomimetic Chemistry
- CHEM 4251: Physical and Computational Models of Biochemical Systems
- CHEM 4621: Bionanotechnology and Introduction to Nanomedicine
- NSCI 4081: Neurochemistry

1 Only one Physical Chemistry sequence (CHEM 3621 Physical Chemistry I and CHEM 3631 Physical Chemistry Lab I or CHEM 3622 Physical Chemistry II and CHEM 3632 Physical Chemistry Lab II) may count towards the major.