# Microbiology Option: Environmental Microbiology Track

## Freshman Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOB 160 - Principles of Living Systems</td>
<td>4</td>
</tr>
<tr>
<td>or CHMY 151 - Honors College Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHMY 143 - College Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>or CHMY 153 - Honors College Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>Math requirements</td>
<td>6-7</td>
</tr>
</tbody>
</table>

For General Plan:
- M 165Q - Calculus for Technology I
- or M 171Q - Calculus I
- M 166Q - Calculus for Technology II
- or M 172Q - Calculus II

For other Plans:
- M 161Q - Survey of Calculus & BIOB 318 - Biometry

University Core and Electives: 11-12

Year Total: 30

## Sophomore Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHMY 321 - Organic Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>or CHMY 331 - Honors Organic Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>CHMY 323 - Organic Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>or CHMY 333 - Honors Organic Chemistry II</td>
<td>4</td>
</tr>
<tr>
<td>BIOM 360 - General Microbiology</td>
<td>5</td>
</tr>
</tbody>
</table>

Choose one of the following sequences: 0-10

For General Plan:
- PHSX 205 - College Physics I
- or PHSX 220 - Physics I with Calculus
- PHSX 207 - College Physics II
- or PHSX 222 - Physics II with Calculus

For Population Biol. & Ecology Plan:
- BIOB 375 - General Genetics
- BIOE 370 - General Ecology

For Bioinformatics Plan: (TBA)

For Ag & Bioremediation Plan:
- ENSC 245IN - Soils

University Core and Electives: 7-17

Year Total: 30

## Junior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOM 410 - Microbial Genetics</td>
<td>3</td>
</tr>
<tr>
<td>BIOM 430 - Applied and Environmental Microbiology</td>
<td>4</td>
</tr>
<tr>
<td>University Core and Electives</td>
<td>18</td>
</tr>
</tbody>
</table>

Year Total: 30

## Senior Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOM 450 - Microbial Physiology</td>
<td>3</td>
</tr>
<tr>
<td>BIOM 494 - Seminar/Workshop (take twice for two credits total)</td>
<td>2</td>
</tr>
</tbody>
</table>

Choose one of the following sequences: 9-12

For General Plan:
- BIOM 405 - Host-Associated Microbiomes
- BIOM 452 - Soil & Environmental Microbiology
- BIOM 455R - Research Mhds in Microbiology

For Population Biol. & Ecology Plan:
- BIOM 452 - Soil & Environmental Microbiology
- BIOM 415 - Microbial Diversity, Ecology, and Evolution
- or BIOM 460 - Infectious Diseases Ecology and Spillover

For Bioinformatics Plan:
- BIOM 410 - Microbial Genetics
- or BIOM 441 and 442
- BCH 441 - Biochemistry of Macromolecules
- BIOM 455R - Research Mhds in Microbiology
- BCH 444R - Biochemistry & Molecular Biology Methods

For Ag & Bioremediation Plan (choose 4 of the following):
- BIOM 452 - Soil & Environmental Microbiology
- BIOM 421 - Concepts of Plant Pathology
- AGSC 450 - Plant Disease Control
- ENSC 353 - Environmental Biogeochemistry
- ENSC 460 - Soil Remediation
- BIOM 424 - Fungal Evolution

University Core and Electives: 12-16

Year Total: 36

Total Program Credits: 126

A minimum of 120 credits is required for graduation; 42 of these credits must be in courses numbered 300 and above.