# B.S. Microbiology Four-Year Sample Curriculum 2020-2021

Requirements subject to change. See UI Catalog for complete degree requirements and additional information. Updated 2/24/20.

## Microbiology Electives

- Immunology
- Pathogenic Microbiology
- Virology
- Genomics
- Protein Structure and Function
- Prokaryotic Molecular Biology
- Eukaryotic Molecular Genetics
- Food Microbiology
- Food Microbiology Laboratory
- Mathematical Biology
- Cell Biology
- Genetic Engineering
- Microbial Ecology

*Microbiology Electives* can be substituted with prior approval from advisor and chairperson.

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<table>
<thead>
<tr>
<th>1st Year – Fall Semester</th>
<th>1st Year – Spring Semester</th>
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<tbody>
<tr>
<td>BIOL 114 Organisms and Environments</td>
<td>BIOL 115/115L Cells &amp; the Evolution of Life &amp; Lab</td>
</tr>
<tr>
<td>minimum ‘C’ required to graduate</td>
<td>Prereq: CHEM 101/101L or CHEM 111/111L</td>
</tr>
<tr>
<td>minimum ‘C’ required to graduate</td>
<td>minimum ‘C’ required to graduate</td>
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</table>

| CHEM 111/111L Principles of Chemistry I & Lab | CHEM 112/112L Principles of Chemistry II & Lab |
| Prereq: math test or min ‘C’ in CHEM 101, MATH 143 or 170 | Prereq: CHEM 111/111L |
| 4 | 5 |

| MATH 170 Analytic Geometry and Calculus I | STAT 251 or STAT 301* |
| Prereq: math test or min ‘C’ in MATH 143 and MATH 144 (co-req possible) | Statistical Methods or Probability & Statistics |
| 4 | Prereq: MATH 108, 137, 143, 160, or 170 or math test (SM); ^MATH 175 (P & S) |
| 3 | 3 |

| ENGL 102 College Writing and Rhetoric | General Education Course/Elective |
| Prereq: ENGL 101 or test scores | 3 |
| 3 | 3 |

**General Education Course/Elective**

| Total Credits | 15 | 15 |

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<tr>
<th>2nd Year – Fall Semester</th>
<th>2nd Year – Spring Semester</th>
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</thead>
<tbody>
<tr>
<td>BIOL 250/255 (250 Fall only)</td>
<td>General Education Course/Elective</td>
</tr>
<tr>
<td>General Microbiology &amp; Lab</td>
<td>3</td>
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<tr>
<td>Prereq: BIOL 115/115L and CHEM 101/101L or 111/111L</td>
<td>3</td>
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<tr>
<td>CHEM 277/278 Organic Chemistry I &amp; Lab</td>
<td>Organic Chemistry II</td>
</tr>
<tr>
<td>Prereq: CHEM 112/112L</td>
<td>Prereq: CHEM 277</td>
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| PHYS 111/111L or PHYS 211/211L General Physics I & Lab or Engineering Physics I & Lab | General Physics II & Lab or Eng. Physics II & Lab |
| Prereq: MATH 143 (GP); MATH 170 (EP) | Prereq: PHYS 111/111L (GP); PHYS 211/211L and ^MATH 175 (EP) |
| 4 | 4 |

| General Education Course/Elective | General Education Course/Elective |
| 3 | 3 |

| General Education Course/Elective | 3 |
| General Education Course/Elective | 3 |

**General Education Course/Elective**

| Total Credits | 16 | 16 |

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<tr>
<th>3rd Year – Fall Semester</th>
<th>3rd Year – Spring Semester</th>
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<tbody>
<tr>
<td>BIOL 310/315 (Fall only)</td>
<td>BIOL 312/313 Molecular and Cellular Biology &amp; Lab</td>
</tr>
<tr>
<td>Genetics &amp; Lab</td>
<td>Prereq: BIOL 115/115L or BIOL 250</td>
</tr>
<tr>
<td>Prereq: CHEM 112/112L and CHEM 277</td>
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| BIOL 300 (Fall only) | Microbiology Elective |
| Biochemistry I | 3 |
| Prereq: CHEM 112/112L and CHEM 277 | 3 |

| ENGL 317 or 207 or 208 Writing Course | Microbiology Elective |
| Prereq: ENGL 101 (all); Junior stand. (317) | 3 |
| 3 | 3 |

| General Education Course/Elective | General Education Course/Elective |
| 3 | 3 |

| General Education Course/Elective | 3 |
| General Education Course/Elective | 3 |

**General Education Course/Elective**

| Total Credits | 14 | 16 |

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<tr>
<th>4th Year – Fall Semester</th>
<th>4th Year – Spring Semester</th>
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<tbody>
<tr>
<td>* (see below) Microbiology Elective</td>
<td>Seminar</td>
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<tr>
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| * (see below) Microbiology Elective | Senior Experience |
| 3 | BIOL 401 or BIOL 405 (Fall) or BIOL 407 or BIOL 408 (Spring) or BIOL 411 (Spring) |

| General Education Course/Elective | Undergraduate Research or Advanced Laboratory Techniques |
| 3 | Prereq: Senior and permission (U); BIOL 250 (A) |

| General Education Course/Elective | 3 |
| General Education Course/Elective | 3 |

| General Education Course/Elective | 3 |
| General Education Course/Elective | 3 |

**General Education Course/Elective**

| Total Credits | 15 | 13 |

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*Microbiology Electives*:

- Immunology
- Pathogenic Microbiology
- Virology
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- Protein Structure and Function
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- Eukaryotic Molecular Genetics
- Food Microbiology
- Food Microbiology Laboratory
- Mathematical Biology
- Cell Biology
- Genetic Engineering
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Additional classes can be substituted with prior approval from advisor and chairperson.