# MICROBIOLOGY (B.S.MICROBIOL.)

To graduate in this program, students must earn a minimum grade of 'C' in BIOL 114, BIOL 115, and BIOL 115L. Required course work includes the university requirements (see regulation J-3 [https://catalog.uidaho.edu/general-requirements-academic-procedures/j-general-requirements-baccalaureate-degrees]) and:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 114</td>
<td>Organisms and Environments</td>
<td>4</td>
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<tr>
<td>BIOL 115</td>
<td>Cells and the Evolution of Life &amp; Cells and the Evolution of Life Laboratory</td>
<td>4</td>
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<tr>
<td>BIOL 250</td>
<td>General Microbiology &amp; General Microbiology Lab</td>
<td>5</td>
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<tr>
<td>BIOL 301/401 or PLSC 440</td>
<td>Undergraduate Research or Advanced Laboratory Techniques</td>
<td>1-4</td>
</tr>
<tr>
<td>BIOL 310 &amp; BIOL 315</td>
<td>Genetics &amp; Genetics Lab</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 312 &amp; BIOL 313</td>
<td>Molecular and Cellular Biology &amp; Molecular and Cellular Laboratory</td>
<td>4</td>
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<tr>
<td>BIOL 380</td>
<td>Biochemistry I</td>
<td>4</td>
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<tr>
<td>BIOL 400</td>
<td>Seminar</td>
<td>1-6</td>
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<tr>
<td>CHEM 111 &amp; 111L</td>
<td>General Chemistry I &amp; General Chemistry I Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 112 &amp; 112L</td>
<td>General Chemistry II &amp; General Chemistry II Laboratory</td>
<td>5</td>
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<tr>
<td>CHEM 277 &amp; CHEM 278</td>
<td>Organic Chemistry I &amp; Organic Chemistry I: Lab</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 372</td>
<td>Organic Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>MATH 170</td>
<td>Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>STAT 251</td>
<td>Statistical Methods</td>
<td>3</td>
</tr>
<tr>
<td>STAT 301</td>
<td>Probability and Statistics</td>
<td>3</td>
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</tbody>
</table>

Select one of the following Senior Experience courses:

- BIOL 401 Undergraduate Research
- BIOL 407 Practicum in Biology Laboratory Teaching
- BIOL 408 Human Anatomy and Physiology Laboratory Pedagogy
- BIOL 411 Senior Capstone

Select one of the following:

- ENGL 207 Persuasive Writing
- ENGL 208 Personal & Exploratory Writing
- ENGL 317 Technical Writing
- ENGL 318 Science Writing

Select one of the following:

- PHYS 111 General Physics I & General Physics I Lab
- PHYS 211 Engineering Physics I & Laboratory Physics I

Select one of the following:

- PHYS 112 General Physics II & General Physics II Lab
- PHYS 212 Engineering Physics II & Laboratory Physics II

Select 15 credits of Approved Electives from the following:

- BIOL 432 Immunology
- BIOL 433 Pathogenic Microbiology
- BIOL 444 Genomics
- BIOL 447 Virology
- BIOL 482 Protein Structure and Function
- BIOL 485 Prokaryotic Molecular Biology
- BIOL 487 Eukaryotic Molecular Genetics
- ENT 411 Veterinary & Medical Entomology
- ENT 476 Medical Parasitology
- FS 416 Food Microbiology & FS 417 and Food Microbiology Laboratory
- MATH 437 Mathematical Biology
- PHIL 361 Professional Ethics or PHIL 450 Ethics in Science
- PLSC 476 Cell Biology
- PLSC 488 Genetic Engineering
- SOIL 425 Microbial Ecology

Total Hours 78-96

Courses to total 120 credits for this degree

1. Additional classes can be substituted with prior approval from advisor and chairperson.

2. The student will be able to apply their knowledge and skills to solve modern microbiological problems.

3. The student will be able to use different modes of thinking to examine concepts and issues related to the molecular and microbiological sciences, explore creative avenues, solve complex problems, and make consequential decisions.

4. The student will be able to acquire, articulate, create, and convey intended meaning using verbal and non-verbal methods of communication that demonstrate an understanding of complex scientific principles and problems and broader applications for society.