The BS in biology curriculum lays the groundwork for strong scientific training with basic coursework in mathematics, chemistry, and physics, relevant to biology. Students explore the organization and processes of life across broad areas of the field, from molecules and cells through organs and organ systems to populations, ecosystems, and evolution. Students can select advanced electives to specialize in a subdiscipline of biology such as developmental biology, stem cell biology, microbiology, or physiology.

**Program Requirements**
Complete all courses listed below unless otherwise indicated. Also complete any corequisite labs, recitations, clinicals, or tools courses where specified and complete any additional courses needed beyond specific college and major requirements to satisfy graduation credit requirements.

**University-Wide Requirements**
All undergraduate students are required to complete the University-Wide Requirements (http://catalog.northeastern.edu/undergraduate/university-academics/university-wide-requirements).

**NUpath Requirements**
All undergraduate students are required to complete the NUpath Requirements (http://catalog.northeastern.edu/undergraduate/university-academics/nupath).

**Biology Major Requirements**

**Introduction to College**
- BIOL 1000 Biology at Northeastern 1

**Experiential Learning Introduction**
- EESC 2000 Professional Development for Co-op 1

**Required Biology**

<table>
<thead>
<tr>
<th>Foundations</th>
<th>BIOL 1107 Foundations of Biology</th>
<th>and Lab for BIOL 1107</th>
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<tr>
<td>Inquiries</td>
<td>BIOL 2299 Inquiries in Biological Sciences</td>
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<td>Genetics</td>
<td>BIOL 2301 Genetics and Molecular Biology</td>
<td>and Lab for BIOL 2301</td>
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<tr>
<td>Techniques</td>
<td>BIOL 2309 Biology Project Lab</td>
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<td>Biochemistry</td>
<td>BIOL 3611 Biochemistry</td>
<td>and Lab for BIOL 3611</td>
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**Biology Capstone**
- BIOL 4701 Biology Capstone 4

**Biology Major Electives**

**Organismal and Population Biology**
Complete one of the following: 4-5
- BIOL 2321 and BIOL 2322 Microbiology and Lab for BIOL 2321
- BIOL 2327 Human Parasitology
- EEMB 2302 and EEMB 2303 Ecology and Lab for EEMB 2302
- EEMB 2400 Introduction to Evolution
- EEMB 2616 Invertebrate Zoology and Lab for EEMB 2616
- EEMB 2618 Vertebrate Zoology and Lab for EEMB 2618
- EEMB 2700 Marine Biology and Lab for EEMB 2700

**Intermediate and Advanced Biology**
Complete three additional 4- or 5-semester-hour courses from the following:
- BIOL 2321 to BIOL 3999
- BIOL 4705 Neurobiology of Cognitive Decline
- BIOL 4707 Cell and Molecular Biology
- BIOL 5000 to BIOL 5999
- EEMB 2290 to EEMB 5515
- EEMB 5520 to EEMB 5534
- EEMB 5548 to EEMB 5569
- ENVR 5242 Ancient Marine Life

One of the three intermediate/advanced electives can be a research course:
- BIOL 4991 Research
- BIOL 4994 Internship
- BIOL 4970 Junior/Senior Honors Project 1
- BIOL 4971 Junior/Senior Honors Project 2

**Supporting Courses**

**Mathematics**
- MATH 1251 Calculus and Differential Equations for Biology 1 4

**Statistics**
- ENVR 2500 and ENVR 2501 Biostatistics and Lab for ENVR 2500 5

**Chemistry**

<table>
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<tr>
<th>General Chemistry</th>
<th>CHEM 1211 General Chemistry 1</th>
<th>and Lab for CHEM 1211</th>
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<td></td>
<td>CHEM 1214 and Lab for CHEM 1214</td>
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**Organic Chemistry**
- CHEM 2311 Organic Chemistry 1 and Lab for CHEM 2311 5
- CHEM 2313 and Lab for CHEM 2313 5

**Physics**

<table>
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<tr>
<th>Physics 1</th>
<th>Complete one of the following lecture/lab pairs. PHYS 1145/PHYS 1146 is recommended:</th>
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<tr>
<td>PHYS 1145</td>
<td>Physics for Life Sciences 1 and Lab for PHYS 1145</td>
</tr>
<tr>
<td>PHYS 1146</td>
<td>Physics for Life Sciences 1 and Lab for PHYS 1145</td>
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**Physics 1**

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<th>Complete one of the following lecture/lab pairs. PHYS 1145/PHYS 1146 is recommended:</th>
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<td>PHYS 1146</td>
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</table>
PHYS 1151 and PHYS 1152 and PHYS 1153
Physics for Engineering 1 and Lab for PHYS 1151
and Interactive Learning Seminar for PHYS 1151

PHYS 1161 and PHYS 1162
Physics 1 and Lab for PHYS 1161

**Physics 2**

Complete one of the following lecture/lab pairs. PHYS 1147/PHYS 1148 is recommended:

<table>
<thead>
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<th>Lecture</th>
<th>Lab</th>
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<tbody>
<tr>
<td>PHYS 1147</td>
<td>PHYS 1148</td>
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<tr>
<td>and PHYS 1147</td>
<td>and Lab for PHYS 1147</td>
</tr>
</tbody>
</table>

PHYS 1155 and PHYS 1156 and PHYS 1157
Physics for Engineering 2 and Lab for PHYS 1155
and Interactive Learning Seminar for PHYS 1155

PHYS 1165 and PHYS 1166
Physics 2 and Lab for PHYS 1165

**Biology Major Credit/GPA Requirement**

Complete 81 semester hours in the major with a cumulative GPA of 2.000.

Due to overlap in course content, double majoring in biology and cell and molecular biology, biology and biochemistry, biology and behavioral neuroscience, or biology and marine biology is not permitted.

**Program Requirement**

136 total semester hours required