BACHELOR OF SCIENCE IN ENVIRONMENTAL BIOLOGY

The curriculum for the bachelor of science degree in environmental biology is built around a core of required courses that provides a general education, a background in the principles of biological and physical science, and an orientation to natural resources and other environmental concerns.

From this common foundation, the large number of elective credits allows each student to develop a unique plan of study, with the help of an assigned advisor who is expert in the student's general area of interest. In keeping with the hands-on, field orientation of our curriculum, students also must complete six credit hours of field experience.

<table>
<thead>
<tr>
<th>Required Courses</th>
<th>Description</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>APM 105</td>
<td>Survey Of Calc &amp; Appl I</td>
<td>4</td>
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<tr>
<td>APM 391</td>
<td>Intro/Probability&amp;Stats</td>
<td>3</td>
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<tr>
<td>EFB 101</td>
<td>Gen Bio I:Organismal Bio&amp;Ecol</td>
<td>3</td>
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<tr>
<td>EFB 102</td>
<td>General Biology I Laboratory</td>
<td>1</td>
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<tr>
<td>EFB 103</td>
<td>Gen Bio II:Cell Bio &amp; Genetics</td>
<td>3</td>
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<tr>
<td>EFB 104</td>
<td>General Biology II Laboratory</td>
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<tr>
<td>EFB 120</td>
<td>The Global Environmmt &amp; Society</td>
<td>3</td>
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<tr>
<td>EFB 132</td>
<td>Orientation Seminar:EFB</td>
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<tr>
<td>EFB 202</td>
<td>Ecol Monitor&amp;Bio Assessmnt</td>
<td>3</td>
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<tr>
<td>EFB 210</td>
<td>Diversity of Life I</td>
<td>3</td>
</tr>
<tr>
<td>EFB 211</td>
<td>Diversity of Life II</td>
<td>3</td>
</tr>
<tr>
<td>EFB 307</td>
<td>Principles Of Genetics</td>
<td>3</td>
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<tr>
<td>EFB 308</td>
<td>Prin Of Genetics Lab</td>
<td>1</td>
</tr>
<tr>
<td>EFB 311</td>
<td>Principles of Evolution</td>
<td>3</td>
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<tr>
<td>EFB 320</td>
<td>General Ecology</td>
<td>4</td>
</tr>
<tr>
<td>EFB 325</td>
<td>Cell Biology</td>
<td>3</td>
</tr>
<tr>
<td>EWP 190</td>
<td>Writing And The Envrnment</td>
<td>3</td>
</tr>
<tr>
<td>EWP 290</td>
<td>Research Writing &amp; Humanities</td>
<td>3</td>
</tr>
<tr>
<td>FCH 150</td>
<td>General Chemistry I</td>
<td>3</td>
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</tbody>
</table>

SUNY ESF | 1 | Course Catalog
FCH 151  General Chemistry I Lab  1
FCH 152  General Chemistry II  3
FCH 153  General Chemistry II Lab  1
FCH 210  Elements Of Organic Chem  4
FOR 110  Environmental Physics  3
PHY 102  Major Concepts of Physics II  0 - 8
OR
FCH 223  Organic Chemistry II  3
AND
FCH 224  Organic Chemistry Lab II  1
OR
APM 106  Survey Of Calc & Appl II  4

Electives

<table>
<thead>
<tr>
<th>Course</th>
<th>Codes*</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>General Education Course in one of the following categories: US History &amp; Civic Engagement, The Arts, World History and Global Awareness, World Languages</td>
<td>G</td>
<td>3</td>
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<tr>
<td>General Education Course in Diversity, Equity, Inclusion and Social Justice</td>
<td>G</td>
<td>3</td>
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<tr>
<td>Directed Electives</td>
<td></td>
<td>25</td>
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<tr>
<td>Open Electives</td>
<td></td>
<td>28</td>
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Directed Electives: UPPER DIVISION BIOLOGY-Environmental Biology

To ensure that ENB undergraduates obtain both strength and breadth of knowledge, 25 elective credit hours in biology must be obtained through courses designed for juniors or seniors (i.e., courses numbered 300 or higher). Among them must be courses that satisfy requirements A-C (below).

1. **Field Experience Elective**
   At least 3 elective credits must come from an approved field biology course (in addition to the core field course, EFB 202). These credits may be obtained through an elective course at Cranberry Lake Biological Station; an approved field course from another accredited institution; an approved internship (EFB 420) or independent research project (EFB498); or a
field trip course (EFB 500). Some courses at CLBS meet both requirement A and a diversity requirement.

2. Structure and Function
At least 3 credit hours must be in the subject area of organism-level physiology, anatomy, or development. The list of allowable courses below may vary slightly from year to year.

- EFB 385 Comparative Vertebrate Anatomy (4 cr.) S
- EFB 427 Plant Anatomy and Development (3 cr.) F
- EFB 429 Plant Physiology (3 cr.) S
- EFB 462 Animal Physiology: Environmental and Ecological (4 cr.) F
- BIO 316 Anatomy & Physiology for Biology Majors (4 cr.) F,S (Not BIO 216)
- BIO 355 General Physiology (3 cr.) F
- BIO 447 Immunology (3 cr.) F
- BIO 503 Developmental Biology (3 cr.) S

3. Organismal Diversity
To encourage breadth in organism-level biology, students must complete at least one course from two of the four groups. (A course from each of the groups is strongly recommended).

a. Diversity of Microorganisms
- EFB 303 Introductory Environmental Microbiology (4 cr.) F
- EFB 340 Forest and Shade Tree Pathology (3 cr.) S
- EFB 342 Fungal Diversity and Ecology (3cr.) CLBS
- EFB 350 Microbial Consortia (3 cr.) S
- EFB 440 Mycology (3 cr.) F

b. Diversity of Plants
- EFB 326 Plant Evolution, Diversification and Conservation (3 cr.) S
- EFB 327 Adirondack Flora (3 cr.) CLBS
- EFB 336 Dendrology (3 cr.) F
- EFB 435 Flowering Plants: Diversity, Evolution, and Systematics (3 cr.) F
- EFB 446 Ecology of Mosses (3 cr.) S
- EFB 496 Flora of Central NY (3 cr.) Maymester
- EFB 496 Wetland Plants & Communities of Adirondacks (3 cr.) CLBS

c. Diversity of Invertebrate Animals
- EFB 351 Forest Entomology (3 cr.) F; odd years
- EFB 352 Entomology (3 cr.) F, even years
- EFB 355 Invertebrate Zoology (4 cr.) S
- EFB 453 Parasitology (3 cr.) F
- EFB 554 Aquatic Entomology (3 cr.) F
- EFB 566 Systematic Entomology (3 cr.) S, even years

d. Diversity of Vertebrate Animals
- EFB 388 Ecology of Adirondack Fishes (3 cr.) CLBS
- EFB 479 Field Ornithology (3 cr.) CLBS
- EFB 482 Ornithology (4 cr.) S
- EFB 483 Mammal Diversity (4 cr.) F
- EFB 485 Herpetology (3 cr.) S
- EFB 486 Ichthyology (3 cr.) F

Note that some courses at CLBS meet both requirement A and a diversity requirement.

Total Minimum Credits For Degree: 126