

# BACHELOR OF SCIENCE IN CONSERVATION BIOLOGY

**Conservation biology** is the application of science to conserve the earth's imperiled species and ecosystems.

The field is growing rapidly and ever increasing in importance in response to the biodiversity crisis, perhaps the most critical environmental issue of our time. Conservation biologists view all of nature's diversity as important and having inherent value. This diversity spans the biological hierarchy and includes variation at the level of genes, populations, communities, ecosystems, and biomes.

## *Required Courses*

APM 105	Survey Of Calc & Appl I	4
APM 391	Intro/Probability&Stats	3
EFB 101	Gen Bio I:Organismal Bio&Ecol	3
EFB 102	General Biology I Laboratory	1
EFB 103	Gen Bio II:Cell Bio & Genetics	3
EFB 104	General Biology II Laboratory	1
EFB 120	The Global Envirnmnt & Society	3
EFB 132	Orientation Seminar:EFB	1
EFB 202	Ecol Monitor&Bio Assessmnt	3
EFB 210	Diversity of Life I	3
EFB 211	Diversity of Life II	3
EFB 307	Principles Of Genetics	3
EFB 308	Prin Of Genetics Lab	1
EFB 311	Principles of Evolution	3
EFB 320	General Ecology	4
EFB 370	Population Ecology & Managemnt	3
EFB 414	Senior Synth/Cons Biol	3
EFB 420 OR EFB 498	Prof Internship/Envrn Biology  Independent Research/Envrn Bio	1 - 5  1 - 5

EWP 190	Writing And The Envrnment	3
EWP 290	Research Writing & Humanities	3
FCH 150	General Chemistry I	3
FCH 151	General Chemistry I Lab	1
FCH 152	General Chemistry II	3
FCH 153	General Chemistry II Lab	1
FOR 110	Environmental Physics	3

## Electives

Course Name	Codes*	Credits
-------------	--------	---------

General Education Course in one of the following categories: US History & Civic Engagement, The Arts, World History and Global Awareness, World Languages	G	3
General Education Course in Diversity, Equity, Inclusion and Social Justice	G	3
Directed Electives		30
Open Electives		22

## Directed Electives

To ensure that Conservation Biology undergraduates obtain both strength and breadth of knowledge, 30 elective credit hours must be distributed in a way that satisfies seven requirements (A-F, below).

### 1. Field Experience Elective

At least three elective credits from an approved field course in biology (in addition to the core field course, EFB 202). These credits are typically obtained through an elective course at our [Cranberry Lake Biological Station](#), an approved internship (EFB 420) or field trip course (EFB 500). Approved field courses from other institutions can also fulfill this requirement. No single class may be used to fulfill directed elective requirements of A and B.

### 2. Biodiversity Specialization (at least three courses from the following list)

*The availability of courses that satisfy this requirement varies. The suggestions below are pre-approved courses that are typically taken - consult with your advisor or the curriculum coordinator*

*about other possibilities. Many other courses can potentially substitute (by petition) for those listed. No single class may be used to fulfill directed elective requirements of A and B.*

- EFB 303 Introductory Environmental Microbiology (4 cr.) F
- EFB 326 Plant Evolution, Diversification and Conservation (3 cr.) S
- EFB 327 Adirondack Flora (3 cr.) CLBS
- EFB 336 Dendrology (3 cr.) F
- EFB 340 Forest and Shade Tree Pathology (3 cr.) S
- EFB 342 Fungal Diversity and Ecology (3 cr.) **CLBS**
- EFB 350 Microbial Consortia (3 cr.) S
- EFB 351 Forest Entomology (3 cr.) **F, even years**
- EFB 352 Entomology (3 cr.) **F, odd years**
- EFB 355 Invertebrate Zoology (4 cr.) S
- EFB 388 Ecology of Adirondack Fisheries (3 cr.) **CLBS**
- EFB 435 Flowering Plants: Diversity, Evolution, and Systematics (3 cr.) F
- EFB 440 Mycology (3 cr.) F
- EFB 446 Ecology of Mosses (3 cr.) S
- EFB 453 Parasitology (3 cr.) F
- 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.) F
- EFB 486 Ichthyology (3 cr.) S
- EFB 496 Wetland Plants & Communities of Adirondacks (3 cr.) **CLBS**
- EFB 496 Flora of Central NY (3 cr.) **Maymester**
- EFB 554 Aquatic Entomology (3 cr.) F
- EFB 566 Systematic Entomology (3 cr.) S, even years

**3. Applied Conservation Biology (at least 6 credits)**

- EFB 305 Indigenous Issues in the Environment (3 cr.) S
- EFB 390 Wildlife Ecology and Management (4 cr.) F
- EFB 423 Marine Ecology (4 cr.) S, even years
- EFB 424 Limnology (3 cr.) F
- EFB 438 Ecology and Management of Waterfowl (3 cr.) F
- EFB 444 Biodiversity and Geography of Nature (3 cr.) F
- EFB 449 Wetlands Habitat Management for Wildlife (3 cr.) S
- EFB 463 Ecotoxicology (3 cr.) S
- EFB 480 Animal Behavior (3 cr.) F
- EFB 487 Fisheries Science & Management (3 cr.) F
- EFB 493 Management of Wildlife Habitats & Populations (3 cr.) F
- EFB 502 Ecology and Management of Invasive Species (3 cr.) S
- EFB 504 Plant- Herbivore Interactions (3 cr.) F, odd years
- EFB 542 Freshwater Wetland Ecosystems (3 cr.) S
- FOR 332 Forest Ecology (3 cr.) F
- FOR 442 Watershed Ecology and Management (3 cr.) F

**4. Human Dimensions (at least 3 credits)**

- EST 312 Sociology of Natural Resources (3 cr.) S
- EST 353 Behavior Change and the Environment (3 cr.) F
- EST 366 Attitudes, Values, & Env. (3 cr.) S
- EST 390 Social Processes and Environment (3 cr.) S
- EST 460 Land Use Law (3 cr.) S
- EST 472 Nat Hist Museums and Modern Sci (3 cr.) **Maymester**
- EWP 390 Intro to Literature of Nature (3 cr.) F
- FOR 360 Principles of Management (3 cr.) F
- FOR 465 Natural Resources and Environ. Policy (3 cr.) F
- FOR 487 Environmental Law and Policy (3cr.) F
- FOR 489 Natural Resources Law and Policy (3cr.) S

**5. Communications and Interpretation (at least 3 credits)**

- EST 370 Introduction to Personal Environmental Interpretation Methods (3 cr.) F
- EST 471 Non-Personal Environmental Interpretation Methods (3 cr.) S
- EST 472 Advanced Interpretation and Environmental Education (3 cr.) S
- EWP 220 Public Presentation Skills (3 cr.) F,S
- EWP 407 Writing for Environmental and Science Professionals (3 cr.) F,S

**6. Technical Skills (at least 3 credits)**

- BTC 401 Molecular Biol. Techniques (3 cr.) F
- BTC 425 Plant Biotechnology (3 cr.) S
- BTC 426 Plant Tissue Culture Methods (3 cr.) F
- EFB 518 System Ecology (4 cr.) F
- ERE 365 Principles of Remote Sensing (4 cr.) S
- ERE 445 Hydrological Modeling (3 cr.) F
- ESF 300 Introduction to Geospatial Information Technologies (3 cr.) F,S
- MCR 484 Scanning Electron Microscopy (3 cr.) F
- MCR 485 Transmission Electron Microscopy (3 cr.) S
- MCR 585 Light Microscopy for Research Applications (3 cr.) S

**Total Minimum Credits For Degree: 126**

