

# DEPARTMENT OF ENVIRONMENTAL BIOLOGY

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The critical importance of natural resources and environmental quality in society demands that aspiring biologists understand natural ecosystems and learn to solve problems effectively. The [Department of Environmental Biology](#) (EB) is committed to ensuring these educational outcomes.

The department offers a dynamic array of opportunities in biology via course work enriched by an active program of research. Through a suite of electives in addition to a required core, undergraduate students may customize their studies in a particular field of interest. Graduate students may pursue master's or doctoral degrees within several areas of study.

## Undergraduate Programs

EB offers six undergraduate majors. Environmental Biology is the broadest major and the degree program to which most students apply. The other six are specialized and are recommended for students with more focused educational goals. They are Aquatic and Fisheries Science, Biotechnology, eConservation Biology, Forest Health, and Wildlife Science. For the first year or two the requirements of these programs are similar to those of Environmental Biology and internal transfer among them is straightforward.

## Field Study and Training

A hallmark of the EB curriculum is its emphasis on field study and training. All majors offered by the Department of Environmental Biology are hands-on programs that emphasize laboratory and field experience in addition to classroom studies. To this end, every student in each major except Biotechnology is required to complete at least six credit-hours of approved field-based instruction in biology. Three of these six credits are associated with a required core course, EFB 202 (Ecological Monitoring and Biodiversity Assessment), which is offered each summer at the Cranberry Lake Biological Station (CLBS) in the Adirondack Mountains. We recommend students enroll in EFB 202 during the summer between freshman and sophomore years, or as early as possible if you are a transfer student.

The remaining three credit hours of Field Experience are elective and can be satisfied in multiple ways. The following lists identify recent course offerings that satisfy the EB field elective requirement. Be aware that some of these courses may not be offered every year.

Courses offered at CLBS during summer session:

- Field Ethnobotany (EFB337)
- Fungal Diversity and Ecology (EFB342)
- Field Herpetology (EFB384)
- Adirondack Fishes (EFB388)
- Wildlife Techniques (EFB496)
- Ecology of Adirondack Aquatic Ecosystems (EFB496)
- Wetland Plants and Communities of the Adirondacks (EFB496)
- Ecology of Adirondack Insects (EFB496)

Courses offered at the Adirondack Ecological Center and Ranger School:

- Mammalian Winter Ecology (EFB484)
- Forest Technology (FTC204/210/211/236)

Courses offered during Maymester at the Syracuse or regional campuses:

- Forest Health Monitoring (EFB439)
- Field Ornithology (EFB496)
- Flora of Central New York (EFB496)
- Interpreting Field Biology (EFB500)

Other courses offered by ESF faculty:

- Forest Health Senior Synthesis (EFB425)
- Ecosystem Restoration Design (EFB434, 4-cr)
- Periodic field trips courses (EFB500) to locations such as Costa Rica, Ireland, Russia, New Zealand, Australia
- Tropical Ecology (EFB 523)
- Limnology Practicum (EFB525 - 2 cr)
- Ecological Engineering in the Tropics (ERE311)

Field courses, approved by petition, from another accredited university, including but not limited to the following affiliated programs:

- [Sea Education Association SEA](#) (through Boston University)  
**Note:** 'Semester at Sea' is different than 'SEA Semester.' EFB WILL NOT ACCEPT any 'Semester at Sea' courses for upper-division biology or field credits.
- [The School for Field Studies](#) (through University of Minnesota)

An independent research project (EFB 498) or internship (EFB 420) that has received prior departmental approval via petition, and that meets the following departmental criteria.

- At least 50% of student effort (including contact time with instructor and self-directed study) must be conducted in the field (out-of-classroom, out-of-laboratory, out-of-clinic, out-of-captivity).
- Student must demonstrate learning gains in organismal biology, ecological theory, and/or application of field methodologies to study populations, ecological communities or ecosystem processes.
- Students must complete a research or professional product for evaluation.
- 40 hours of effort will garner 1 academic credit-hour.

