



Environmental Management Track

Ecology & Evolutionary Biology University of Colorado at Boulder

**** Note: Tracks are intended to be advisory only, not required for graduation. Students are encouraged to seek faculty input to formulate a final selection of courses.*

Recommended for students with career interests in natural resource management, environmental consulting, environmental impact assessment, water quality, and environmental pollution.

Specialization in this field is important. Cartographic and geographic information systems skills are increasingly essential. Students interested in careers in water-related environmental issues should have some microbiology, as well as courses in aquatic biology such as limnology, stream biology, and fish ecology. Courses in soils, ecosystems, and biogeochemistry are important for understanding environmental pollution. Courses in plant and animal identification (special taxa, etc.) will be particularly valuable for individuals who plan careers in terrestrial environmental impact assessment.

EBIO Majors Fundamentals Sequence

EBIO 2050-4 Environmental Biology w/lab (or EBIO 1220/1240)
EBIO 2060-4 Cellular and Integrative Physiology w/lab (or EBIO 1210/1230)
EBIO 2070-4 Genetics: Molecules to Population w/recitation
EBIO 2080-4 Evolutionary Biology w/recitation

Area Requirement (at least one course from 2 of the 3 lists)

Environmental Biology: EBIO3140-3 Plant Ecology, EBIO3155-3 Population and Community Ecology, EBIO3240-4 Animal Behavior, EBIO4040-3 Conservation Biology, EBIO4170-3 Ecosystem Ecology

Integrative Physiology: EBIO3430-5 Human Physiology, EBIO3530-5 Essentials of Plant Physiology, EBIO3700-5 Comparative Animal Physiology

Evolution/Genetics: EBIO3500-4 Plant Kingdom, EBIO3520-4 Plant Systematics, EBIO3720-5 Comparative Vertebrate Anatomy, EBIO4650-4 Invertebrate Zoology

Ancillary Sciences and Mathematics

One year of college chemistry. Recommended: CHEM 1111-5 and CHEM 1131-5. Also Acceptable: CHEM 1111-5 and CHEM 1071-4, or CHEM 1151-6 and CHEM 1171-6. CHEM 1211-3 and CHEN 1221-2 can substitute for CHEM 1111.

One year of college physics. Recommended: PHYS 2010-5 and PHYS 2020-5 (non-calculus based). Also acceptable: PHYS 1110-4 and PHYS 1120-4 and PHYS 1140-1 (calculus based).

One semester of college calculus. Recommended: MATH 1310-5 (computer applications). Also acceptable: MATH 1300-5 or APPM 1350-4. Math modules cannot be substituted.

Principles courses

*** Highly recommended: EBIO4040-3 Conservation Biology

Recommended depending on emphasis:

EBIO3140-3 Plant Ecology

EBIO3155-3 Population and Community Ecology

EBIO4170-3 Ecosystem Ecology

List of Recommended Advanced Courses

Remember that the College of Arts and Sciences will subtract any hours in excess of the 45 allowed in any one department from the 120 that you need to graduate, i.e. if you have 50 hours of courses with an EBIO prefix you will need 125 hours to graduate. (Only 12 credit hours of courses taken from other departments may be applied to the EBIO major.)

Global Ecology (EBIO 3180-3)

Microbiology (EBIO 3400-4)

Stream Biology and Lab (EBIO 4020-3, EBIO 4150-(1-2))

Limnology (EBIO 4030-3)

Advanced Ecosystem Management (EBIO 4100-3)

Introduction Biogeochemistry (EBIO 4160-3)

Landscape Ecology (EBIO 4165-3)

Fish Ecology (Special Topics EBIO4460)

Plants of Colorado (EBIO4520-3)

Biology of Special Taxa (Plant Systematics – EBIO 3520-4; Insect Biology –

EBIO 4660-4; Biology of Amphibians and Reptiles – EBIO 4740-3; Ornithology

– EBIO 4750-3; Mammalogy – EBIO 4760-4)

Critical Thinking Course (EBIO 4800-3)

Microbial Ecology

Cartography I (GEOG 3053-4)*
Introduction to Geographic Information Systems (GEOG 4103-4)*
Soils Geography (GEOG 4401-3)*
Environmental Impact Assessment (ENVD 4023-3)*
Independent Research/Honors Research

* These courses have limited enrollments and require instructor permission for EBIO majors.

For a total of 38 EBIO hours of which 18 must be upper division and 6 of the upper division must be at the 4000 level.

These 6 hours must be courses with EBIO prefix only and taken on the Boulder campus. Cannot be satisfied with EBIO 4010 or study abroad. No more than three credit hours of independent study/research will count. Up to two Critical Thinking courses in EBIO can be counted.