

# ECOLOGY AND EVOLUTIONARY BIOLOGY (EEB)

## EEB 1893. Foreign Study. (1-6 Credits)

Special topics taken in a foreign study program.

May be repeated for a total of 6 credits

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%201893>)

## EEB 2100E. Global Change Ecology. (3 Credits)

Causes and ecological consequences of anthropogenic environmental change. Topics include: ecological consequences of human modification of the earth, sea and air; biotic responses to environmental change; and sustaining future ecosystems functions. CA 3.

**Skill Codes:** COMP: Environmental Literacy

**Content Areas:** CA3: Science & Technology

**Topics of Inquiry:** TOI4: Environmental Literacy, TOI6: Science & Empirical Inq

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%202100E>)

## EEB 2202. Evolution and Human Diversity. (3 Credits)

The biological bases of human diversity from genetic and evolutionary perspectives. Topics include the genetic basis for human variation and race; adaptations of human populations; the role of genes and environments in producing human variability; cultural evolution; origin and spread of "modern" humans. CA 3. CA 4-INT

**Content Areas:** CA3: Science & Technology, CA4INT: Div & Multi Intl

**Topics of Inquiry:** TOI6: Science & Empirical Inq

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%202202>)

## EEB 2208E. Introduction to Conservation Biology. (3 Credits)

Patterns of biodiversity and extinction; causes of extinction and population declines; ecological restoration; conservation planning; protection of ecosystem services; implementing conservation actions; conservation economics; conservation law; effects of global change. CA 3.

**Enrollment Requirements:** Recommended preparation: BIOL 1102 or 1108.

**Skill Codes:** COMP: Environmental Literacy

**Content Areas:** CA3: Science & Technology

**Topics of Inquiry:** TOI4: Environmental Literacy, TOI6: Science & Empirical Inq

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%202208E>)

## EEB 2214. Biology of the Vertebrates. (3 Credits)

Evolutionary history and diversity of vertebrates with emphasis on classification, fossil history, feeding, locomotion, physiological ecology, reproduction, defense, and social behavior.

**Enrollment Requirements:** Three credits of introductory Biology.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%202214>)

## EEB 2222E. Plants in a Changing World. (3 Credits)

The central role that plants play in human life and how they influence, shape, and control both our lives and the rapidly changing world. The role of plants in environmental, social, and political issues such as climate change; biodiversity; food quantity, quality, and security; human health and disease; and environmental quality and sustainability. CA 3.

**Skill Codes:** COMP: Environmental Literacy

**Content Areas:** CA3: Science & Technology

**Topics of Inquiry:** TOI4: Environmental Literacy, TOI6: Science & Empirical Inq

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%202222E>)

## EEB 2244E. General Ecology. (4 Credits)

Fundamental ecological dynamics of communities, populations, and ecosystems, including how humans impact the health and well-being of the natural world, the concept of ecosystem services, and the synergy between conservation of the biota and sustainability. Emphasis in discussion sections is on reading primary literature, problem-solving, scientific method, and sampling techniques.

**Enrollment Requirements:** BIOL 1108.

**Skill Codes:** COMP: Environmental Literacy

**Topics of Inquiry:** TOI4: Environmental Literacy

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%202244E>)

## EEB 2244WE. General Ecology. (4 Credits)

Fundamental ecological dynamics of communities, populations, and ecosystems, including how humans impact the health and well-being of the natural world, the concept of ecosystem services, and the synergy between conservation of the biota and sustainability. Emphasis in discussion sections is on reading primary literature, problem-solving, scientific method, and sampling techniques.

**Enrollment Requirements:** BIOL 1108; ENGL 1007 or 1010 or 1011 or 2011.

**Skill Codes:** COMP: Environmental Literacy, COMP: Writing Competency

**Topics of Inquiry:** TOI4: Environmental Literacy

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%202244WE>)

## EEB 2245. Evolutionary Biology. (3 Credits)

Introduction to evolutionary mechanisms, biogeography, and the history of major groups of plants and animals.

**Enrollment Requirements:** Six credits of college biology.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%202245>)

## EEB 2245W. Evolutionary Biology. (4 Credits)

Introduction to evolutionary mechanisms, biogeography, and the history of major groups of plants and animals. Requires major writing assignment.

**Enrollment Requirements:** Six credits of college biology; ENGL 1007 or 1010 or 1011 or 2011.

**Skill Codes:** COMP: Writing Competency

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%202245W>)

**EEB 2250. Introduction to Plant Physiology. (3 Credits)**

Exploration of the distinct physiological processes of plants that underlie their capacity to grow, develop, and sense and respond to the environment. Topics include photosynthesis, water and nutrient uptake, long distance transport, signals and signal transduction, growth and development, and environmental interactions (biotic and abiotic), including climate change. CA 3.

**Enrollment Requirements:** BIOL 1107 or 1108 or 1110 or instructor consent.

**Content Areas:** CA3: Science & Technology

**Topics of Inquiry:** TOI6: Science & Empirical Inquiry

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%202250>)

**EEB 2254W. Current Research Topics in Ecology and Evolutionary Biology. (3 Credits)**

Engagement with primary research literature in ecology and evolutionary biology, and development of written communication skills through writing, editing, revising, and peer feedback.

**Enrollment Requirements:** ENGL 1007 or 1010 or 1011 or 2011; three credits of coursework in BIOL, EEB, MCB, or PNB.

**Skill Codes:** COMP: Writing Competency

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%202254W>)

**EEB 2256W. Current Topics in Evolutionary Medicine and Disease Ecology. (3 Credits)**

Engagement with primary research literature in evolutionary medicine and disease ecology, and development of written communication skills through writing, editing, revising, and peer feedback.

**Enrollment Requirements:** ENGL 1007 or 1010 or 1011 or 2011. Three credits of coursework in BIOL, EEB, MCB, or PNB.

**Skill Codes:** COMP: Writing Competency

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%202256W>)

**EEB 2258W. Current Topics in Conservation and Climate Change Biology. (3 Credits)**

Engagement with primary research literature in conservation and climate change biology, and development of written communication skills through writing, editing, revising, and peer feedback.

**Enrollment Requirements:** ENGL 1007 or 1010 or 1011 or 2011. Three credits of coursework in BIOL, EEB, MCB, or PNB.

**Skill Codes:** COMP: Writing Competency

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%202258W>)

**EEB 2893. Foreign Study. (1-6 Credits)**

Special topics taken in a foreign study program.

May be repeated for a total of 6 credits

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%202893>)

**EEB 3201. Animal Behavior. (3 Credits)**

(Also offered as PSYC 3201.) Principles of animal behavior derived from a review of descriptive and analytic studies in laboratory and field. Sometimes offered in multimedia format.

**Enrollment Requirements:** BIOL 1102 or 1107; PSYC 1100.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203201>)

**EEB 3203. Developmental Plant Morphology. (4 Credits)**

Analysis of diversity in plant form; principles of plant construction and development.

**Enrollment Requirements:** BIOL 1108 or instructor consent; open to juniors or higher.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203203>)

**EEB 3205E. Current Issues in Environmental Science. (4 Credits)**

Readings and discussions of current issues in environmental science, emphasizing linkages between earth, oceans, atmosphere, and biosphere. Topics include climate change; watershed changes; alternative energy; population growth; endangered biodiversity; genetically-engineered organisms; deforestation/restoration; risk assessment; tradeoffs; problem-solving; alternative futures. Includes attendance at departmental seminar and field trips. CA 3.

**Enrollment Requirements:** Open to honors students, others with instructor consent. Recommended preparation: eight credits of college level science. May not be taken concurrently with EEB 3894.

**Grading Basis:** Honors Credit

**Skill Codes:** COMP: Environmental Literacy

**Content Areas:** CA3: Science & Technology

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203205E>)

**EEB 3220. Evolution of Green Plants. (4 Credits)**

Evolution of morphological and genomic traits marking the conquest of land, the diversification of land plants, and the significance of plants in the evolution of life on earth, global climates and human civilizations. Laboratory session includes study of morphological and anatomical characters of extant and fossil plants, phylogenetic inference from morphological and molecular characters, and discussion of primary literature.

**Enrollment Requirements:** BIOL 1108 or 1110 or instructor consent.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203220>)

**EEB 3230. Marine Biology. (3 Credits)**

(Also offered as MARN 3014.) The study of the kinds and distributions of marine organisms. Particular attention is paid to biotic features of the oceans, organism-habitat and relationships and general ecological concepts influencing marine populations and communities. Field trips are required.

**Enrollment Requirements:** One year of laboratory biology.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203230>)

**EEB 3240. Biology of Bryophytes and Lichens. (4 Credits)**

Diversity, evolution, ecology, development and taxonomy of the bryophytes (mosses, liverworts and hornworts) and lichen-forming fungi.

**Enrollment Requirements:** Six credits of 2000-level or above biology or instructor consent.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203240>)

**EEB 3244W. Writing in Ecology. (3 Credits)**

Critical engagement with primary research literature in ecology through written communication; skills in editing, revising and peer feedback.

**Enrollment Requirements:** ENGL 1007 or 1010 or 1011 or 2011; EEB 2244E or permission of the instructor.

**Skill Codes:** COMP: Writing Competency

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203244W>)

**EEB 3245. Evolutionary Medicine. (3 Credits)**

Introduction to evolutionary concepts and hypotheses related to disease and human health, and applications of evolutionary thinking in drug discovery, vaccine design, and development of treatment plans for various diseases.

**Enrollment Requirements:** BIOL 1107 or 1108.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203245>)

**EEB 3250. Biology of the Algae. (4 Credits)**

Laboratory and field-oriented study of major groups of algae, emphasizing structure, function, evolution, systematics, and ecology.

**Enrollment Requirements:** BIOL 1108 or 1110 or instructor consent; open to juniors or higher.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203250>)

**EEB 3254. Mammalogy. (4 Credits)**

Diversity, behavior, reproduction, ecology, and evolution of mammals. Laboratories cover anatomy, systematics, and distribution of major groups of mammals. Field trips required.

**Enrollment Requirements:** Six credits of 2000 or above level biology. Recommended preparation: EEB 2214.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203254>)

**EEB 3256. Plants and Civilization. (3 Credits)**

Plants and animals used by people; origin, history, biology, distribution, and role in development of civilizations.

**Enrollment Requirements:** Three credits of introductory biology.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203256>)

**EEB 3265. Herpetology. (4 Credits)**

Physiological ecology, reproductive biology, behavior, and community ecology of amphibians and reptiles. Laboratories cover evolution, systematics, and distribution of amphibians and reptiles of the world. Field trips required.

**Enrollment Requirements:** Six credits of 2000 or above level biology. Recommended preparation: EEB 2214.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203265>)

**EEB 3266. Field Herpetology. (3 Credits)**

Field-intensive study of diversity, ecology, physiology, behavior, adaptation and identification of the amphibians and reptiles of the region; herpetofaunal research methods. Field trips required.

**Enrollment Requirements:** BIOL 1108.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203266>)

**EEB 3271. Systematic Botany. (4 Credits)**

Classification, identification, economic importance, evolution and nomenclature of flowering plants. Laboratory compares vegetative and reproductive characters of major families.

**Enrollment Requirements:** BIOL 1108 or 1110 or instructor consent.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203271>)

**EEB 3273. Comparative Vertebrate Anatomy. (4 Credits)**

Anatomy, development, functional morphology, and evolution of living vertebrate animals.

**Enrollment Requirements:** BIOL 1108.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203273>)

**EEB 3360. Physiological Ecology of Plants. (3 Credits)**

The complex relationships between plants and their environment, with a focus on the unique physiological processes of plants that underlie their ecology. The impact of human-driven global change is a cross-cutting theme.

**Enrollment Requirements:** BIOL 1108 or 1110 or instructor consent.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203360>)

**EEB 3390. South African Ecosystems and Diversity. (4 Credits)**

(Also offered as NRE 3390.) Taught in South Africa. Understanding South Africa's diverse ecosystems with an emphasis on savannas. Classroom instruction and fieldwork in Kruger National Park, South Africa. Form and function of individual organisms and ecosystems. This course is offered in partnership with the Organization for Tropical Studies.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203390>)

**EEB 3490. Conservation, Biodiversity, Management, and Protected Area Design in South Africa. (4 Credits)**

(Also offered as NRE 3490.) Study abroad in South Africa. History of conservation biology as a science and practice. Emphasis on the links between pattern and process, strategies and tools available to conservationists to maintain biodiversity; the relationship between biodiversity and ecosystem functioning and debates on the maintenance of biodiversity in human-dominated landscapes. This course is offered in partnership with the Organization for Tropical Studies.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203490>)

**EEB 3881. Summer Internship Experience. (0 Credits)**

Internship with a non-profit organization, a governmental agency, or a business under the supervision of Ecology and Evolutionary Biology faculty. Activities relevant to the practice of ecology, biodiversity, evolutionary biology, or conservation biology will be planned and agreed upon in advance by the job site supervisor, the faculty coordinator, and the intern. Combines with EEB 3891 in subsequent semester. Students taking this course will be assigned a final grade of S (satisfactory) or U (unsatisfactory).

May be repeated for credit

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203881>)

**EEB 3891. Internship in Ecology, Conservation, or Evolutionary Biology. (1-9 Credits)**

Internship with a non-profit organization, a governmental agency, or a business under the supervision of Ecology and Evolutionary Biology faculty. Activities relevant to the practice of ecology, biodiversity, evolutionary biology, or conservation biology will be planned and agreed upon in advance by the job site supervisor, the faculty coordinator, and the intern. One credit may be earned for each 42 hours of pre-approved activities up to a maximum of nine credits. Students taking this course will assigned a final grade of S (satisfactory) or U (unsatisfactory). May be repeated for a total of up to 15 credits using either EEB 3891 and/or EEB 5891.

May be repeated for a total of 15 credits

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203891>)

**EEB 3893. Foreign Study. (1-6 Credits)**

Special topics taken in a foreign study program.

May be repeated for credit

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203893>)

**EEB 3894. Undergraduate Seminar. (1-6 Credits)**

Content varies with instructor.

May be repeated for credit

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203894>)

**EEB 3895. Special Topics. (1-6 Credits)**

**Enrollment Requirements:** Prerequisites and recommended preparation vary.

May be repeated for credit

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203895>)

**EEB 3898. Variable Topics. (3 Credits)**

**Enrollment Requirements:** Prerequisites and recommended preparation vary.

May be repeated for credit

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203898>)

**EEB 3899. Independent Study. (1-6 Credits)**

Independent investigation of special problems in ecology and evolutionary biology.

May be repeated for credit

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%203899>)

**EEB 4100. Big Data Science for Biologists. (4 Credits)**

Introduction to basic concepts and approaches associated with big datasets in the biological sciences. Online laboratories include examples from molecular biology, ecology, evolutionary biology, and systems biology. Topics include data creation, integration, curation, manipulation, and visualization.

**Enrollment Requirements:** MCB 2400 or 2410 or EEB 2245.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%204100>)

**EEB 4120. Paleobiology. (4 Credits)**

(Also offered as EARTH 4120.) Ancient life, including the preservation of organisms as fossils, evolution, ecology, geobiology, biostratigraphy, and major events in the history of life. Includes microorganisms, animals, and plants. Formerly offered as GSCI 4120.

**Enrollment Requirements:** EARTH 1050; or both EARTH 1052 and one of EARTH 1010 or 1051 or 1055 or 1070 or GEOG 1070; or BIOL 1108.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%204120>)

**EEB 4200. Biology of Fishes. (4 Credits)**

An introduction to the biology of fishes, with an emphasis on adaptation and evolutionary diversification. Topics include the evolution of major groups, morphology, physiology, behavior, and population and community ecology. Lectures, critical discussions of current journal articles, student presentations, and exercises in the field and laboratory. Field trips required.

**Enrollment Requirements:** BIOL 1108.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%204200>)

**EEB 4215. Physiological Ecology of Animals. (3 Credits)**

Physiology of animals in an evolutionary context: how individuals cope and how species adapt to natural environments. Lectures, student-led presentations, and critical discussions of current journal articles.

**Enrollment Requirements:** BIOL 1107 and 1108.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%204215>)

**EEB 4230W. Methods of Ecology. (4 Credits)**

An intensive introduction to field and laboratory methods in ecology.

Emphasis will be placed on the use of quantitative and analytical techniques in physiological, population, community and ecosystem ecology. An introduction to sampling procedures, data collection and statistical analysis. Computers will be used to model population and community dynamics and to analyze ecological data sets. Laboratory periods will consist of field and laboratory problems; field trips required, including occasional weekend trips.

**Enrollment Requirements:** EEB 2244E or instructor consent; ENGL 1007 or 1010 or 1011 or 2011. Recommended preparation: One course in statistics and one course in calculus.

**Skill Codes:** COMP: Writing Competency

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%204230W>)

**EEB 4250. General Entomology. (4 Credits)**

The biology of insects: anatomy, physiology, ecology, behavior, development, evolution, and diversity.

**Enrollment Requirements:** BIOL 1108 or instructor consent.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%204250>)

**EEB 4260. Ornithology. (2 Credits)**

Adaptations, habits, and importance of birds.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%204260>)

**EEB 4261. Ornithology Laboratory. (2 Credits)**

Methods of field study and identification of birds; functional morphology, preparation of study skins and specimens. Field trips, including at least one required day-long weekend trip.

**Enrollment Requirements:** Open only to students who are currently taking or have completed EEB 4260.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%204261>)

**EEB 4262. Field Methods in Ornithology. (3 Credits)**

Design of bird population surveys, census methods, behavioral studies of wild birds, data collection and reporting, bird identification skills. Field trips required.

**Enrollment Requirements:** Six credits of college biology, including BIOL 1108.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%204262>)

**EEB 4272. The Summer Flora. (3 Credits)**

Identification of Connecticut's native and exotic plants; lecture, laboratory and field study.

**Enrollment Requirements:** Three credits of college botany.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%204272>)

**EEB 4274. Introduction to Animal Parasitology. (4 Credits)**

Protozoan and metazoan parasites of humans and other animals.

**Enrollment Requirements:** BIOL 1108 or instructor consent.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%204274>)

**EEB 4275. Invertebrate Zoology. (4 Credits)**

Body organization, functional morphology and evolution compared among major invertebrate phyla. Field trips required.

**Enrollment Requirements:** Six credits of introductory biology.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%204275>)

**EEB 4276. Plant Structural Diversity. (4 Credits)**

Evolution, development, and functional consequences of structural variation in plants.

**Enrollment Requirements:** BIOL 1108 or 1110 or instructor consent.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%204276>)

**EEB 4896W. Senior Research Thesis in Ecology and Evolutionary Biology. (3 Credits)**

A W course for students writing a senior thesis on their independent research. Not limited to honors students.

**Enrollment Requirements:** Three credits of EEB 3899, which may be taken concurrently; ENGL 1007 or 1010 or 1011 or 2011 or 2100; open to juniors or higher.

**Grading Basis:** Honors Credit

**Skill Codes:** COMP. Writing Competency

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%204896W>)

**EEB 4990. Directed Field Experience. (4 Credits)**

(Also offered as NRE 4990.) Taught in Costa Rica or South Africa. An introduction to research design, field methods, and basic data analysis in a tropical context. Hypothesis testing and statistical analysis, including orientation to basic software packages. Students design, implement, and analyze data for their own field projects. This course is offered in partnership with the Organization for Tropical Studies.

View Classes (<https://catalog.uconn.edu/course-search/?details&code=EEB%204990>)