Academic Track in the Biological Science Major

ECOLOGY, EVOLUTION & ENVIRONMENTAL SCIENCE

Ecology, evolution, and environmental science are the most inclusive fields in the biological sciences, using principles from an array of disciplines. Ecology and environmental science study the relationship between organisms and their natural environments. Evolution is the study of the process by which species change morphologically and physiologically over time. Students following this academic track are preparing for careers in environmental consulting or government, or graduate study in ecology, evolution, animal behavior, and environmental science.

CURRICULUM: A combination of conceptual and taxonomically oriented courses is recommended for this academic track. Beyond the major prerequisite courses, Genetics (PCB 3063) and Evolution (PCB 4674) are the foundational courses of the track. Students who plan to pursue graduate study in ecology, evolution, or environmental science are strongly encouraged to take a Directed Individual Study (BSC 4900) or Research Methods (BSC 4933) course. The following represents a list of other recommended elective courses offered by the department that are applicable to ecology, evolution and environmental science. Students should determine which elective courses to take based on educational interests and career goals.

**CURRICULUM:**

- BOT 3143C  Field Botany (4)
- BOT 4373C  Biology of Higher Plants (4)
- BSC 3052  Conservation Biology (3)
- BSC 3312  Marine Biology (3)
- BSC 4514  Aquatic Pollution Biology (3)
- BSC 4613  Systematics (3)
- PCB 3043  General Ecology (3)
- PCB 4042  Perspectives in Ecol. & Evol. Bio. (3)
- PCB 4341C  Advanced Field Biology (3)
- ZOO 3203/L  Adv. Invert. Zoology (2) & Lab (2)
- ZOO 4204C  Bio. Higher Marine Invertebrates (5)
- ZOO 4232/L  Parasitology (3) & Lab (2)
- ZOO 4343C  Biology of Lower Vertebrates (4)
- ZOO 4353C  Biology of Higher Vertebrates (4)
- ZOO 4513  Animal Behavior (4)
- ZOO 4823  Insect Biology (3) & Lab (2)

**Additional Recommended Electives (Not for Biological Science major credit):**

- BCH 4605  Mammalian Biochem. & Genetics (3)
- CHB 3304  Behavioral Genetics (3)
- CHM 4080  Environmental Chemistry II (3)
- CHM 4609  Environmental Chemistry (3)
- EXP 3203/L  Animal Sensory Processes (3) & Lab (1)
- EXP 3422/L  Conditioning and Learning (3) & Lab (1)
- PSB 2000  Introduction to Brain and Behavior (3)
- PSB 3004/L  Physiological Psychology (3) & Lab (1)

**FACULTY:** Undergraduate teaching and guidance is a large part of the commitment of our regular faculty in Biological Science. Our faculty value interaction and discussion with students and encourage individual discussion and research projects. The following faculty have expertise in ecology, evolution and environmental science.

- Lawrence Abele  Molecular systematics and evolution of crustaceans
- Peter Beerli  Evolutionary genetics/genomics
- Gregory Erickson  Evolutionary morphology of vertebrate and paleobiology
- Thomas Hansen  Theoretical evolutionary biology and mathematical modeling
- William Herrnkind  Behavior and marine biology
- David Houle  Population genetics; maintenance of genetic variation
- Brian Inouye  Population and community ecology
- Don Levitan  Marine ecology and population biology of marine organisms
- Robert Livingston  Aquatic ecology and pollution biology
- Thomas Miller  Community ecology; plant evolutionary biology
- Austin Mast  Comparative ecology, biogeography, and phylogeny of the Australian Banksias (Proteaceae)
- Scott Steppan  Evolutionary biology and mammalian systematics
- David Swoford  Molecular evolution and evaluation; phylogenetic inference
- Joseph Travis  Population biology of fishes and amphibians
- Walter Tschinkel  Social biology and ecology of ants
- Nora Underwood  Ecology and evolution of plant-insect interactions
- Alice Winn  Evolution and ecology of plants
- Janie Wulff  Roles of predators, physical disturbance and competition in shaping sponge faunas

**FACILITIES:** The Mission Road plant growth facility, the FSU Marine Lab, and the private Tall Timbers Research Station accommodate research projects in ecology, evolution and environmental science. Several large computers, biochemical laboratories, and specialized equipment are available for research needs.