Evolution and Ecology

The evolution and ecology major focuses on the descent and interrelationships of organisms, including plants, animals and microorganisms. The study of evolution deals with both the historical path of evolution from pre-biotic earth to the present, and the processes contributing to evolutionary change, such as natural selection, genetic drift and historical events. Ecology is the study of how organisms interact with other organisms and with their environment. It is one of the key sciences contributing to the broader field of conservation biology and the maintenance of biodiversity.

Pursuing Evolution and Ecology at Ohio State
Students interested in majoring in evolution and ecology should have a good background in biology, chemistry, physics and math and skills in written and verbal communication. Students with such a background will find it much easier to complete the college-level courses in the physical and biological sciences required for the evolution and ecology degree.

All freshman applicants to the Columbus campus are considered within a competitive admission process; find admissions criteria at go.osu.edu/admissions. Upon admission to the university, students can declare a major in evolution and ecology within the Department of Evolution, Ecology and Organismal Biology. Completion of the major leads to a Bachelor of Science degree.

Evolution and Ecology Requirements
Requirements for the evolution and ecology major cover both supportive courses in biology, chemistry, math, statistics and physics, as well as core requirements within the major itself.

Specific supportive courses include two semesters each of introductory biology, chemistry and physics, a semester of organic chemistry, a semester of calculus, and a semester of statistics.

Core requirements:
• Three specific courses—evolution, ecology and integrated biology.
• One advanced course in mathematics or statistics.
• Four additional courses (two in biodiversity and two in evolution and ecology) from a selection of appropriate courses.

In addition to core requirements, students are free to choose elective courses that correspond to their specific area of interest. These courses can be either within the Department of Evolution, Ecology and Organismal Biology or (if appropriate) from other departments. Core courses provide a strong foundation in the most fundamental aspects of evolution and ecology, and electives permit students to go more deeply into specific areas of interest or into courses that prepare them for their post-baccalaureate career.

Students who would like more information about the evolution and ecology major, or who would like to discuss the major, should contact the department undergraduate coordinating advisor in evolution and ecology. The coordinating advisor can answer questions about the major, help students determine whether it is suitable for their interests and goals, and help students develop personalized courses of study.

Co-Curricular Opportunities
The Department of Evolution, Ecology and Organismal Biology strongly encourages students majoring in evolution and ecology to become involved in research. No other learning experience can match the value of a hands-on research project. Participating in research helps students develop scientific curiosity and will also give students a basis for deciding whether a research career is a good fit for their interests. For information about finding a meaningful research experience, students should contact the departmental undergraduate research coordinator.

Students can join the Evolution and Ecology Club and the Zoology Club for opportunities to interact with faculty and graduate students, discuss careers, research areas with scientists from Ohio State and elsewhere, and participate in service activities.

Evolution and ecology students are also encouraged to take summer courses at Ohio State’s Island Campus, Stone Laboratory, located on Gibraltar Island in Lake Erie. This biological field station and research laboratory offers introductory and upper-level courses in biological sciences and is especially suited for field-based courses, such as field ecology and aquatic biology. Learn more at stonelab.osu.edu.

Honors & Scholars Programs
Ohio State offers the Honors and Scholars Programs to create an environment of intellectual support and stimulation within a close-knit community of high-ability undergraduate students. Through these programs, students have access to smaller classes, undergraduate research opportunities, close working relationships with faculty, priority scheduling, and unique housing options. For more information about these opportunities, visit honors-scholars.osu.edu.

Evolution and ecology students in the Arts and Sciences Honors Program have the opportunity to enroll in several honors and upper-level courses. Honors students are encouraged to meet...
with the Honors evolution and ecology advisor early in their career to map out a challenging Honors program in evolution and ecology. Honors students are particularly encouraged to make research and, if possible, an honors thesis a part of their undergraduate experience.

The Ohio State Scholars Program features residential communities for students who share academic interests and career aspirations. Scholars programs of particular interest to evolution and ecology students are the Biological Sciences, Environment and Natural Resources, and Health Sciences Scholars Programs.

**Career Prospects in Evolution and Ecology**

Graduates of the evolution and ecology program may pursue careers for which a liberal education is the prerequisite. With a bachelor’s degree, students most likely begin at an entry level job in the life sciences and biology, such as research assistant, technician, or staff member in a research laboratory or in a private company dealing with biological or pharmacological research; in biological supplies and services; or in science journalism and technical writing. For positions at a more advanced level, training at the professional or graduate level is usually necessary.

Careers particularly appropriate for students completing the evolution and ecology program include those dealing with the environment and conservation, such as ecological assessment and research, state or federal environmental agencies, zoos and aquaria, and conservation organizations.

The evolution and ecology major provides a good foundation for advancement to greater responsibility as a research scientist or manager through on-the-job experience or graduate study. Positions with private consulting firms and nonprofit organizations are also open to evolution and ecology majors, and, depending on a student’s interests and background, might include such things as research or writing environmental impact statements.

Evolution and ecology students who go on to obtain advanced degrees may also choose careers as research scientists or college professors. In the private sector, a master’s degree may be sufficient for a position in research or product development. Other career pathways include pursuing a professional degree in medicine, public health, veterinary medicine, or other health-related field; in environmental law; or in education.

Evolution and ecology students who plan to teach in the life sciences at the middle-school or high-school level may obtain a master’s degree in education with one year of graduate work.