



# EVOLUTIONARY BIOLOGY

## INTERDISCIPLINARY PROGRAM

### B.A. IN EVOLUTIONARY BIOLOGY (SECOND MAJOR ONLY)

The interdisciplinary program in evolutionary biology is designed to provide students with knowledge of macro- and micro-evolutionary processes underlying the evolution and diversification of life on earth and the meta-scientific issues involved in this unique field of study. The program includes a foundation in the history and philosophy of evolutionary thought and alternative conceptualizations of the mechanisms, patterns and process of evolution. It emphasizes evolutionary theory, foundations of ecology and genetics, focused study of particular organisms or groups of organisms, and the dynamics of evolutionary principles in scientific inquiry.

## PROGRAM HIGHLIGHTS

The proximity of the Cleveland Museum of Natural History and the Case School of Medicine means that Evolutionary Biology students have an unusually wide range of opportunities to become involved in research on the evolution of organisms in the past and the present. For example, at the Cleveland Museum of Natural History, students may take courses and do internships in a wide range of topics including invertebrate paleontology, human evolution and evolutionary principles in conservation biology. A unique resource there is the Hamann-Todd Osteological Collection curated by the Cleveland Museum of Natural History, which is one of the world's largest collections of human and non-human primate skeletal materials. Researchers come from all over the world to work with this collection. Case students are welcome to conduct supervised research projects. Other examples include opportunities to study ongoing evolution at the Case School of Medicine in the Department of Genetics, the Dental School and the Center for Global Health and Disease.

## DEGREE REQUIREMENTS AND COURSE OFFERINGS

### The Major

The 30-credit interdisciplinary major consists of: three foundation courses; one senior seminar; one course in ecology; one in the philosophy/history of science; and four approved electives. In consultation with a major adviser, students will tailor intensive study to suit particular interests within the major. This is a second major in conjunction with a conventional disciplinary major. The courses will be selected from the attached list of courses. Up to 12 credits in required and elective courses taken by students for their first major may be applied to their evolutionary biology major.

### The Minor

The 15-credit interdisciplinary minor consists of three foundation courses and two approved electives. In consultation with a minor adviser, students will tailor intensive study to suit particular interests within the major.

## MAJOR COURSE OUTLINE

Three foundation courses (9 credits)

One senior seminar (3 credits)

One philosophy/history of science (3 credits; additional courses in this section may be selected as approved electives)

One ecology course (3 credits)

Four approved elective courses (12 credits; may be selected from approved electives and philosophy/history of science lists)

### The foundation courses are:

BIOL 114 Principles of Biology  
OR

BIOL 214 Genes and Evolution

GEOL 210 Historical Geology/Paleontology

PHIL 225 Evolution

### The senior seminar is:

PHIL 394 Seminar in Evolutionary Biology

### The philosophy/history of science options are:

HSTY 201 Science in Western Thought I

HSTY 202 Science in Western Thought II

HSTY 394 History of Biology

HSTY 402 Survey of the History of Science II

PHIL 203 Natural Philosophy I

PHIL 204 Natural Philosophy II

PHIL 303 Topics in Philosophy of Science (Evolution, Creation, and Science; Darwin's Revolution; Evolutionary Theory and Race)

PHIL 309 Philosophical Issues in Genetics

### The ecology options are:

BIOL 216 Organisms and Ecosystems

BIOL 336 Aquatic Biology

BIOL 337 Marine Ecology

BIOL 370 Ecology

**Approved elective courses include:**

ANTH 103 Introduction to Human Evolution  
ANAT 375 Human Evolution:  
The Fossil Evidence  
ANAT 377 Human Musculoskeletal Anatomy  
ANAT 383 Evolutionary Anatomy  
ANTH 105 Worldwide Variation in  
Human Biology  
ANTH 295 Comparative Primate Behavior  
ANTH 302 Darwinian Medicine  
ANTH/BIOLOG/GEOL/PHIL 367 Topics in  
Evolutionary Biology  
ANTH/BIOLOG/GEOL/PHIL 396 Undergraduate  
Research in Evolutionary Biology  
ANTH 393 Human Ecology: Biology of  
Human Adaptability  
ANTH 397 Epidemiology and Evolution  
of Human Disease  
BIOL 223 Vertebrate Biology  
BIOL 305 Herpetology  
BIOL 326 Genetics  
BIOL 343 Microbiology  
BIOL 358 Animal Behavior  
BIOL 362 Principles of Developmental  
Biology  
GEOL 307/BIOL 307 Evolutionary Biology  
and Paleobiology of Invertebrates  
GEOL 451 Isotopy Geology  
GEOL 452 Geochronology  
PSCL 350 Behavioral Genetics

**RECENT GRADUATES**

A recent survey of post graduation plans among graduates of the College of Arts and Sciences found that 55 percent went on to graduate or professional school and the remainder pursued other plans.

**FOR MORE  
INFORMATION**

**General Bulletin**

[www.case.edu/bulletin](http://www.case.edu/bulletin)

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