EVOLUTIONARY BIOLOGY, BA

Phone: 216.368.3557; Fax: 216.368.4672
Michael F. Benard, Chair, Department of Biology
mfb38@case.edu

Degree: Bachelor of Arts (BA)
Major: Evolutionary Biology

Program Overview

The Evolutionary Biology Program is designed to provide students with knowledge of macro- and micro-evolutionary processes underlying the evolution and diversification of life on Earth and an understanding of the meta-scientific issues involved in this unique field of study.

The program includes grounding in the history and philosophy of evolutionary thought and alternative conceptualizations of the mechanisms, patterns, and processes 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.

Undergraduate Policies

For undergraduate policies and procedures, please review the Undergraduate Academics section of the General Bulletin.

Accelerated Master's Programs

Undergraduate students may participate in accelerated programs toward graduate or professional degrees. For more information and details of the policies and procedures related to accelerated studies, please visit the Undergraduate Academics section of the General Bulletin.

Program Faculty

Michael Benard, PhD
Professor and Chair, Department of Biology

Radhika Atit, PhD
Professor, Department of Biology

Darin Croft, PhD
Professor, Department of Anatomy, School of Medicine

Emmitt Jolly, PhD
Professor, Department of Biology

Scott Simpson, PhD
Professor, Department of Anatomy, School of Medicine

Mark Willis, PhD
Professor, Department of Biology

Peter A. Zimmerman, PhD
Professor, Center for Global Health and Diseases, School of Medicine

Program Requirements

This program is available only as a second major for a BA degree; as a secondary major for a student completing a BS degree; or as the sole major for a BA degree if a student is also completing a BS degree. All students must meet the general requirements for bachelor's degrees and the Unified General Education Requirements.

Evolutionary biology is a second major, to be pursued in conjunction with a conventional disciplinary major. Up to 12 credit hours in required and elective courses taken by students for their first major may be applied to their evolutionary biology major.

The 30 credit hour interdisciplinary major in evolutionary biology consists of:

a. Three foundation courses
b. One course in ecology
c. One course in the philosophy/history of science
d. 15 credit hours of approved electives

The approved electives may include additional philosophy/history of science courses from the list below. In consultation with a major advisor, students will tailor intensive study to suit particular interests within the major.

Code	Title	Credit Hours
Required Courses:		**9**
BIOL 214	Genes, Evolution and Ecology	
EEPS 210	Earth History: Time, Tectonics, Climate, and Life	
PHIL/ANTH/ BIOL/EEPS/ HSTY 225	Evolution	
Ecology Courses:		**3**
Choose one of the following:		
BIOL 336	Aquatic Biology	
BIOL 352	Ecology and Evolution of Infectious Diseases	
BIOL 351	Principles of Ecology	
BIOL 353	Ecophysiology of Global Change	
Philosophy/History of Science Courses:		**3**
Choose one of the following:		
HSTY 201	Science in Western Thought I	
HSTY 202	Science in Western Thought II	
PHIL 203	Revolutions in Science	
Elective Courses:		**15**
ANTH 103	Introduction to Human Evolution	
BIOL 312	Introductory Plant Biology	
ANTH 302	Darwinian Medicine	
BIOL 375	Brain Evolution and Function	
BIOL 214L	Genes, Evolution and Ecology Lab	
BIOL 216L	Development and Physiology Lab	
BIOL 223	Vertebrate Biology	
BIOL 305	Herpetology	
BIOL 305L	Herpetology Lab	
BIOL 318	Introductory Entomology	
BIOL 326	Genetics	
BIOL 328	Plant Genomics and Proteomics	
BIOL 339	Aquatic Biology Laboratory	
BIOL 343	Microbiology	
BIOL 345	Mammal Diversity and Evolution	

BIOL 351L	Principles of Ecology Laboratory
BIOL 358	Animal Behavior
BIOL 358L	Animal Behavior Lab
BIOL 338	Ichthyology
BIOL 362	Principles of Developmental Biology
BIOL 364	Research Methods in Evolutionary Biology
BIOL 365	Evo-Devo:Evolution of Body Plans and Pathologies
EEPS 301	Stratigraphy and Sedimentation
PSCL 350	Behavior Genetics
STAT 201	Basic Statistics for Social and Life Sciences
STAT 313	Statistics for Experimenters
ANTH/EEPS/PHIL 367	Topics in Evolutionary Biology
ANTH/BIOL/EEPS/PHIL 396	Undergraduate Research in Evolutionary Biology
Total Credit Hours	**30**