

EVOLUTIONARY BIOLOGY PROGRAM

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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.

Program Faculty

Patricia Princehouse, PhD
Senior Research Associate, Department of History; Director, Evolutionary Biology Program

Radhika Atit, PhD
Professor, Department of Biology

Cynthia M. Beall, PhD
Distinguished University Professor and Sarah Idell Pyle Professor of Anthropology, Department of Anthropology

Michael Benard, PhD
Associate Professor, Department of Biology

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

Yohannes Haile-Selassie Ambaye, PhD
Adjunct Professor, Department of Anthropology; Curator and Head of Physical Anthropology, Cleveland Museum of Natural History

Emmitt Jolly, PhD
Associate Professor, Department of Biology

Bruce Latimer, PhD
Adjunct Professor of Anthropology; Adjunct Associate Professor, Department of Anatomy, School of Medicine

Peter McCall, JD, PhD
Professor, Department of Earth, Environmental, and Planetary Sciences

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

Mark Willis, PhD
Professor and Chair, Department of Biology

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

Undergraduate Programs

Major

Evolutionary biology is a second major, to be pursued in conjunction with a conventional disciplinary major. 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 30-credit interdisciplinary major in evolutionary biology consists of:

1. Three foundation courses
2. One course in ecology
3. One course in the philosophy/history of science
4. Four 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.

Required courses:

BIOL 214	Genes, Evolution and Ecology	3
EEPS 210	Earth History: Time, Tectonics, Climate, and Life	3
PHIL/ANTH/BIOL/EEPS/HSTY 225	Evolution	3

Additional required courses (one from each area)

Ecology		3
BIOL 216	Development and Physiology	
BIOL 336	Aquatic Biology	
BIOL 351	Principles of Ecology	
Philosophy/History of Science		3
HSTY 201	Science in Western Thought I	
HSTY 202	Science in Western Thought II	
HSTY 402	Introduction to Historiography of Science	
PHIL 203	Revolutions in Science	
PHIL 303	Topics in Philosophy of Science	

Approved electives		12
ANTH 103	Introduction to Human Evolution	
ANTH 302	Darwinian Medicine	
ANTH 370	Field Seminar in Paleoanthropology	
ANTH 375	Human Evolution: The Fossil Evidence	
ANTH 377	Human Osteology	
ANTH 378	Reproductive Health: An Evolutionary Perspective	
BIOL 214L	Genes, Evolution and Ecology Lab	
BIOL 216L	Development and Physiology Lab	
BIOL 223	Vertebrate Biology	
BIOL 305	Herpetology	
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 362	Principles of Developmental Biology
BIOL 363	Experimental Developmental Biology
BIOL 364	Research Methods in Evolutionary Biology
BIOL 365	Evo-Devo: Evolution of Body Plans and Pathologies
EEPS 301	Stratigraphy and Sedimentation
EEPS/BIOL 307	Evolutionary Biology and Paleobiology of Invertebrates
PSCL 350	Behavior Genetics
STAT 201	Basic Statistics for Social and Life Sciences
STAT 313	Statistics for Experimenters
EECS 458	Introduction to Bioinformatics
ANTH/EEPS/PHIL 367	Topics in Evolutionary Biology
ANTH/BIOL/EEPS/PHIL 396	Undergraduate Research in Evolutionary Biology

Total Units 27

Minor

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

Required courses:

BIOL/ANTH/EEPS/HSTY/PHIL 225	Evolution	3
BIOL 214	Genes, Evolution and Ecology	3
EEPS 210	Earth History: Time, Tectonics, Climate, and Life	3
Two approved electives selected in consultation with advisor		6
Total Units		15