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 Anatomy, School of Medicine**

- 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 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:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
</tr>
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<tbody>
<tr>
<td>BIOL/ANTH/EEPS/HSTY/PHIL 225</td>
<td>Evolution</td>
<td>3</td>
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<tr>
<td>BIOL 214</td>
<td>Genes, Evolution and Ecology</td>
<td>3</td>
</tr>
<tr>
<td>EEPS 210</td>
<td>Earth History: Time, Tectonics, Climate, and Life</td>
<td>3</td>
</tr>
</tbody>
</table>

Two approved electives selected in consultation with advisor

Total Units 15