EVOLUTIONARY BIOLOGY
PROGRAM

217 Rockefeller, Institute for the Science of Origins
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Patricia Princehouse, Program Director
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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 Anthropology

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

Additional philosophy/history of science courses from the list below
- 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
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>BIOL 345</td>
<td>Mammal Diversity and Evolution</td>
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<td>BIOL 351L</td>
<td>Principles of Ecology Laboratory</td>
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<tr>
<td>BIOL 358</td>
<td>Animal Behavior</td>
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<td>BIOL 362</td>
<td>Principles of Developmental Biology</td>
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<td>BIOL 364</td>
<td>Research Methods in Evolutionary Biology</td>
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<td>BIOL 365</td>
<td>Evo-Devo:Evolution of Body Plans and Pathologies</td>
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<td>EEPS 301</td>
<td>Stratigraphy and Sedimentation</td>
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<tr>
<td>EEPS/BIOL 307</td>
<td>Evolutionary Biology and Paleobiology of Invertebrates</td>
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<td>PSCL 350</td>
<td>Behavior Genetics</td>
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<tr>
<td>STAT 201</td>
<td>Basic Statistics for Social and Life Sciences</td>
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<tr>
<td>STAT 313</td>
<td>Statistics for Experimenters</td>
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<tr>
<td>EECS 458</td>
<td>Introduction to Bioinformatics</td>
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<tr>
<td>ANTH/EEPS/PHIL 367</td>
<td>Topics in Evolutionary Biology</td>
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<tr>
<td>ANTH/BIOL/EEPS/PHIL 396</td>
<td>Undergraduate Research in Evolutionary Biology</td>
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**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:**

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

Two approved electives selected in consultation with advisor 6

**Total Units: 15**