OVERVIEW: MAJORING IN ECOLOGY

Ecology, the study of organisms and their environment, is an interdisciplinary science. Ecologists work at the interface of basic science fields such as biology, geology, chemistry, and mathematics, and may draw more broadly on subjects such as economics, public policy, environmental law, anthropology, and geography. There is a growing need to understand how organisms and the environment interact and to examine the influence of humans on the earth and its processes and biodiversity.

There are currently 190 majors in Ecology. Class sizes in the major are relatively small and students are encouraged to get to know their professors and participate in research projects. Students may elect to expand their experience through field courses, study abroad programs, and internships with the School of Ecology or other sponsors. These activities provide valuable experiences for students and fulfill the university's experiential learning requirement.

Many students completing an ecology degree will elect to enter graduate programs in Ecology or allied fields. Employment opportunities exist with consultant or environmental businesses that provide environmental services to local communities or industries as well as state and federal agencies or non-profit organizations. We encourage students to choose elective courses that enhance the academic breadth in their curriculum and build the skill set appropriate for their career goals. Excellent writing and speaking skills are critical in nearly all ecological fields and for students interested in environmental policy, experience in conflict resolution is valuable.

Two degree options exist for an undergraduate degree in Ecology. The Bachelor of Science degree has a strong basic science emphasis and provides training in all levels of ecological study from organismal to population and community and ecosystem ecology. This program prepares students for graduate study in Ecology or allied fields or careers in ecological research, environmental consulting or work with governmental agencies in natural resource management or protection. The Bachelor of Arts degree in Ecology provides a strong foundation in Ecology with an emphasis on the application of ecology to issues of societal importance such as conservation and climate change. Students pursuing this degree track will likely seek careers in environmental policy, conservation or similar fields. This is also an appropriate degree for students interested in environmental law or journalism. Students in either degree program will
meet with an advisor to discuss career plans and choose major electives to tailor their course of study to focus on areas of emphasis such as health, environmental policy, conservation, marine ecology, or ecology education.

Career Choices

*Some of the following employers may require additional training at the master’s level.*

**Private & Nonprofit Organizations**
- Agricultural Products Manufacturers
- Engineering Firms
- Pharmaceutical Firms
- Colleges/Universities
- Environmental Firms/Groups
- Public/Private Schools
- Biotechnology Firms
- Fermentation Companies
- Research Centers
- Botanical Gardens
- Forest Management Agencies
- Watershed Associations
- Chemical Manufacturers
- Laboratories
- Weed Control Companies
- Conservation Organizations
- Consulting Groups
- Nature Conservancies
- World Wildlife Fund
- Crop/Soil Management Firms
- Nature Science Centers

**Government Agencies**
- Agricultural Research Stations
- Dept. of Agriculture
- Peace Corps
- Bureau of Land Management
- Dept. of Environmental Protection
- Shade Tree Commission
- Bureau of Reclamation
- Dept. of Interior
- Soil Conservation Service
- Consumer Affairs Department
- Division of Fish, Game & Wildlife
- Teach for America
- Conservation Dept.
Required Foundational Coursework for the B.S. and A.B. Degrees in Ecology

• B.S. Ecology
  - MATH 1113
  - STAT 2000 or BIOS 2010
  - PHYS 1111 and PHYS 1111L
  - BIOL 1107 and BIOL 1107L
  - BIOL 1108 and BIOL 1108L
  - CHEM 1211 and CHEM 1211L
  - CHEM 1212 and CHEM 1212L
  - CHEM 2211 and CHEM 2211L
  - CHEM 2212 and CHEM 2212L OR BCMB 3100 OR MATH 2260

• A.B. Ecology
  - MATH 1113
  - BIOL 1107 and BIOL 1107L
  - BIOL 1108 and BIOL 1108L
  - CHEM 1211 and CHEM 1211L
  - STAT 2000 or BIOS 2010

Comparison of the B.S. and A.B. Degree Programs in Ecology

The following table shows the key required courses in the B.S. and the A.B. degrees.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>BS Degree</th>
<th>AB Degree</th>
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<tbody>
<tr>
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<tr>
<td>Core Area I</td>
<td>ENGL 1101 – English Composition I</td>
<td>ENGL 1101 – English Composition I</td>
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<tr>
<td>Core Area I</td>
<td>ENGL 1102 – English Composition II</td>
<td>ENGL 1102 – English Composition II</td>
</tr>
<tr>
<td>Core Area I</td>
<td>MATH 1113 – Pre-calculus</td>
<td>MATH 1113 – Pre-calculus</td>
</tr>
<tr>
<td>Core Area II</td>
<td>CHEM 1211, CHEM 1211L – Freshman Chemistry I and Lab</td>
<td>CHEM 1211, CHEM 1211L – Freshman Chemistry I and Lab</td>
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<tr>
<td>Core Area II</td>
<td>BIOL 1107, BIOL 1107L – Principles of Biology I and Lab</td>
<td>BIOL 1107, BIOL 1107L – Principles of Biology I and Lab</td>
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<tr>
<td>Core Area III</td>
<td>MATH 2250 – Calculus I for Science and Engineering</td>
<td>Preferred courses: GEOG 2011-2011L Introduction to Geographic Information Science or CSCI 1210- Computer Modeling and Science</td>
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<tr>
<td>Core Area IV</td>
<td>World Languages and Culture (Foreign Language), 9 hours</td>
<td>World Languages and Culture (Foreign Language), 9 hours</td>
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<tr>
<td>Core Area IV</td>
<td>Humanities and the Arts, 3 hours</td>
<td>Humanities and the Arts, 3 hours</td>
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<tr>
<td>Core Area V</td>
<td>Social Sciences, 9 hours</td>
<td>Social Sciences, 9 hours</td>
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<tr>
<td>Core Area VI</td>
<td>BIOL 1108, BIOL 1108L– Principles of Biology II and Lab</td>
<td>BIOL 1108, BIOL 1108L– Principles of Biology II and Lab</td>
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<tr>
<td>Core Area VI</td>
<td>CHEM 1212, CHEM1212L – Freshman Chemistry II and Lab</td>
<td>STAT 2000 – Introductory Statistics or BIOS 2010- Biostatistics</td>
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<tr>
<td>Core Area VI</td>
<td>CHEM 2211, CHEM 2211L – Modern Organic Chemistry I and Lab</td>
<td>ECOL 2200 Sustainability of Water or ECOL 2100 – Global Climate Change: Past, Present, and Future</td>
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<td>Core Area VI</td>
<td>PHYS 1111-1111L – Introductory Physics Mechanics, Waves, and Thermodynamics</td>
<td>AAEC 2580 – Applied Microeconomics Principles or ECON 2106 – Principles of Microeconomics</td>
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<tr>
<td>Core Area VI</td>
<td>BCMB 3100 – Introductory Biochemistry and Molecular Biology or CHEM 2211/2211L – Modern Organic Chemistry II or MATH 2260 –Calculus II for Science and Engineering</td>
<td>COMM 1100 – Introduction to Public Speaking</td>
</tr>
<tr>
<td>Core Area VI</td>
<td>ANTH 1102 – Introduction to Anthropology or GEOG 1103 – Cultural Geography of the United States</td>
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</table>

| Major Courses | STAT 2000 – Introductory Statistics | ECOL 3440- Science Communication for Ecologists |
| Major Courses | ECOL 3400 – Professional Development for Careers in Ecology | ECOL 3400 – Professional Development for Careers in Ecology |
| Major Courses | ECOL 3500-3500L – Ecology | ECOL 3500-3500L – Ecology |
| Major Courses | ECOL 4950 – Senior Seminar | ECOL 4950 – Senior Seminar |
| Major Courses | ECOL 4000 Population and Community Ecology or ECOL 4150-4150L – Population Biology of Infectious Diseases | ECOL 3300 Applied Ecology Field Program |
| Major Courses | ECOL 4010 – Ecosystem Ecology or ECOL 4310-ECOL 4310L – Freshwater Ecosystems | ECOL 3770S Urban Ecology or ECOL 4900S- Environmental Practicum |
| Major Courses | ECOL 4240-4240L – Physiological Ecology or ECOL 4540 – Behavioral Ecology | |
| Major Courses | ECOL 4500 – Evolutionary Ecology or GENE 3000 – Evolutionary Biology or GENE 3200 – Genetics | |
**Major Electives**

<table>
<thead>
<tr>
<th>Natural History Course</th>
<th>Natural History Course</th>
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<tr>
<td>Methods/Skills Course</td>
<td>Methods/Skills Course</td>
</tr>
<tr>
<td>Additional Major Electives (13-18 hours)</td>
<td>Additional Major electives (9-12 hours)</td>
</tr>
</tbody>
</table>

**General Electives**

| (9-18 hours) | (20-23 hours) |

**Odum School Requirements**

| Foreign Language; Proficiency through the third semester | Foreign Language; Proficiency through the third semester |
| Fine Arts/Philosophy/Religion/Literature requirement (2 courses) | Fine Arts/Philosophy/Religion/Literature requirement (2 courses) |

**Odum School College-wide Degree Requirements**

In addition to completing the University of Georgia Core Curriculum, all recipients of the B.S. and A.B. degrees in Ecology from the Odum School of Ecology are expected to satisfy the following requirements. Courses used to fulfill the Core Curriculum may simultaneously satisfy these requirements where applicable. All courses listed as part of college-wide requirements must be taken for 30 or more hours.

- Foreign Language (through the third semester)
- Fine Arts/Philosophy/Religion/Literature (2 courses)

**MINOR IN ECOLOGY**

Students who pursue a minor in Ecology will become familiar with the application of ecology as an environmental management tool.

- Students are required to complete at least 15 hours of coursework for the minor, and all prerequisites must be taken prior to enrolling in the required courses.
- All courses used to satisfy the minor must be passed with a grade of "C"(2.0) or better.

**Required Courses (7-8 hours):**

ECOL 3500-3500L or ECOL 3505H-3505L

Choose one course from the following list:

ECOL 3530
ECOL 4000/6000
ECOL 4010/6010
ECOL(BIOL) 4150/6150-4150L/6150L
ECOL 4240/4240L
ECOL(FISH)(WASR) 4310/6310-4310L/6310L
ECOL 4500/6500
ECOL 4540/6540
ECOL 4775/6775-4775L/6775L

Electives (7-8 hours):
Choose 7-8 hours of additional upper-division (3000-level or above) ECOL courses.

TRANSFER APPLICATION (UGA)

Any student wishing to declare the A.B. or B.S. Ecology as their major must first apply to UGA through Undergraduate Admissions. Be sure to indicate the Odum School of Ecology as the school/college in which you plan to enroll.

TRANSFER EQUIVALENCIES

Students taking coursework at another institution should view the UGA Transfer Equivalency website to verify transfer credit.

ADDITIONAL INFORMATION

Please visit our website at: ecology.uga.edu for more information about the Odum School and our undergraduate program.

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