Conservation Biology, B.S.

Requirements

University General Education Requirements

All undergraduate students at the University of Wisconsin–Madison are required to fulfill a minimum set of common university general education requirements to ensure that every graduate acquires the essential core of an undergraduate education. This core establishes a foundation for living a productive life, being a citizen of the world, appreciating aesthetic values, and engaging in lifelong learning in a continually changing world. Various schools and colleges will have requirements in addition to the requirements listed below. Consult your advisor for assistance, as needed. For additional information, see the university Undergraduate General Education Requirements (http://guide.wisc.edu/undergraduate/requirementsforundergraduatestudytext) section of the Guide.

General Education

• Breadth—Humanities/Literature/Arts: 6 credits
• Breadth—Natural Science: 4 to 6 credits, consisting of one 4- or 5-credit course with a laboratory component; or two courses providing a total of 6 credits
• Breadth—Social Studies: 3 credits
• Communication Part A & Part B *
• Ethnic Studies *
• Quantitative Reasoning Part A & Part B *

* The mortarboard symbol appears before the title of any course that fulfills one of the Communication Part A or Part B, Ethnic Studies, or Quantitative Reasoning Part A or Part B requirements.

College of Letters & Science Degree Requirements: Bachelor of Science (B.S.)

Students pursuing a Bachelor of Science degree in the College of Letters & Science must complete all of the requirements below. The College of Letters & Science allows this major to be paired with either the Bachelor of Arts or the Bachelor of Science degree requirements.

Bachelor of Science Degree Requirements

Mathematics

Complete two courses of 3+ credits at the Intermediate or Advanced level in MATH, COMP SCI, or STAT subjects. A maximum of one course in each of COMP SCI and STAT subjects counts toward this requirement.

Foreign Language

Complete the third unit of a foreign language.

L&S Breadth

Complete:

• 12 credits of Humanities, which must include at least 6 credits of Literature; and
• 12 credits of Social Science; and
• 12 credits of Natural Science, which must include 6 credits of Biological Science and 6 credits of Physical Science.

Liberal Arts and Science Coursework

Complete at least 108 credits.

Depth of Intermediate/Advanced Coursework

Complete at least 60 credits at the Intermediate or Advanced level.

Major

Declare and complete at least one major.

Total Credits

Complete at least 120 credits.

UW-Madison Experience

Complete both:

• 30 credits in residence, overall, and
• 30 credits in residence after the 86th credit.

Quality of Work

• 2.000 in all coursework at UW–Madison
• 2.000 in Intermediate/Advanced level coursework at UW–Madison

Non–L&S Students Pursuing an L&S Major

Non–L&S students who have permission from their school/college to pursue an additional major within L&S only need to fulfill the major requirements. They do not need to complete the L&S Degree Requirements above.

Requirements for the Major

Conservation biology majors must take at least 50 credits in the major. When selecting courses to meet major requirements, students are encouraged to meet with their faculty advisor or student services coordinator to discuss courses that align with their areas of academic interest.

Introductory Courses

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Introductory Biology</td>
<td>10</td>
</tr>
</tbody>
</table>

Complete one of the following options:

Option 1:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOLOGY/ZOOLOGY 101</td>
<td>Animal Biology</td>
<td></td>
</tr>
<tr>
<td>BIOLOGY/ZOOLOGY 102</td>
<td>Animal Biology Laboratory</td>
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<tr>
<td>BIOLOGY/BOTANY 130</td>
<td>General Botany</td>
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</tbody>
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Option 2:

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<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOLOGY/BOTANY/ZOOLOGY 151</td>
<td>Introductory Biology</td>
<td></td>
</tr>
<tr>
<td>BIOLOGY/BOTANY/ZOOLOGY 152</td>
<td>Introductory Biology</td>
<td></td>
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</tbody>
</table>

Option 3:

Complete at least 10 credits from the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BIOCORE 381</td>
<td>Evolution, Ecology, and Genetics</td>
<td></td>
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</table>
### Conservation Biology, B.S.

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BIOCORE 382</td>
<td>Evolution, Ecology, and Genetics Laboratory</td>
<td></td>
</tr>
<tr>
<td>BIOCORE 383</td>
<td>Cellular Biology</td>
<td></td>
</tr>
<tr>
<td>BIOCORE 384</td>
<td>Cellular Biology Laboratory</td>
<td></td>
</tr>
<tr>
<td>BIOCORE 485</td>
<td>Principles of Physiology</td>
<td></td>
</tr>
<tr>
<td>BIOCORE 486</td>
<td>Principles of Physiology Laboratory</td>
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</table>

### Chemistry (4-5 credits)
Complete one of the following:
- CHEM 103  General Chemistry I
- CHEM 108  Chemistry in Our World
- CHEM 109  Advanced General Chemistry (for those who might take more chemistry)

### Physical Environment (3-5 credits)
Complete one of the following:
- ATM OCN/GEOSCI  Survey of Oceanography
- ENVIR ST/GEOSCI  Environmental Geology
- ENVIR ST/ GEOG  Introduction to the Earth System
- ENVIR ST/ GEOG  Physical Systems of the Environment
- GEOSCI 100  Introductory Geology, How the Earth Works
- GEOSCI 202  Introduction to Geologic Structures
- GEOSCI 204  Geologic Evolution of the Earth

### Ecology and Evolution (6-7 credits)
Complete two of the following, each from a different category (students are encouraged to take courses in all three areas):

#### Ecology:
- BOTANY/ F&W ECOL/ZOOLOGY  General Ecology
- BOTANY/ F&W ECOL/ZOOLOGY 460

#### Evolution:
- GEOSCI 110  Evolution and Extinction
- ANTHRO/ BOTANY/ZOOLOGY  Evolutionary Biology
- ANTHRO/ BOTANY/ZOOLOGY 410

#### Extinction:
- ENVIR ST/ZOOLOGY  Extinction of Species
- ENVIR ST/ F&W ECOL/ZOOLOGY 360

### Statistics (3 credits)
Complete one of the following:
- STAT 371  Introductory Applied Statistics for the Life Sciences
- STAT 301  Introduction to Statistical Methods
- STAT/F&W ECOL/HORT  Statistical Methods for Bioscience I

### SPECIES & FIELD BIOLOGY
Complete 12 credits from:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
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<tbody>
<tr>
<td>AGRONOMY/BOTANY/SOIL SCI 370</td>
<td>Grassland Ecology</td>
</tr>
<tr>
<td>ENTOM/ZOOLOGY 371</td>
<td>Medical Entomology</td>
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<tr>
<td>AN SCI/F&amp;W ECOL/ZOOLOGY 520</td>
<td>Ornithology</td>
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<tr>
<td>AN SCI/F&amp;W ECOL/ZOOLOGY 521</td>
<td>Birds of Southern Wisconsin</td>
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<tr>
<td>ANTHRO 391</td>
<td>Bones for the Archaeologist</td>
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<tr>
<td>ANTHRO 420</td>
<td>Introduction to Primatological Research</td>
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<tr>
<td>ANTHRO 458</td>
<td>Primate Behavioral Ecology</td>
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<tr>
<td>ANTHRO 668</td>
<td>Primate Conservation</td>
</tr>
<tr>
<td>BOTANY 330</td>
<td>Algae</td>
</tr>
<tr>
<td>BOTANY/ PL PATH 332</td>
<td>Fungi</td>
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<tr>
<td>BOTANY 400</td>
<td>Plant Systematics</td>
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<tr>
<td>BOTANY 401</td>
<td>Vascular Flora of Wisconsin</td>
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<tr>
<td>BOTANY/ F&amp;W ECOL 402</td>
<td>Dendrology</td>
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<tr>
<td>BOTANY 403</td>
<td>Field Collections and Identification</td>
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<tr>
<td>BOTANY 422</td>
<td>The Vegetation of Wisconsin</td>
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<tr>
<td>BOTANY/ F&amp;W ECOL 455</td>
<td>Plant-Insect Interactions</td>
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<tr>
<td>ENTOM/ZOOLOGY 302</td>
<td>Introduction to Entomology</td>
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<tr>
<td>ENTOM 331</td>
<td>Taxonomy of Mature Insects</td>
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<tr>
<td>ENTOM 432</td>
<td>Taxonomy and Bionomics of Immature Insects</td>
</tr>
<tr>
<td>ENTOM 468</td>
<td>Studies in Field Entomology</td>
</tr>
<tr>
<td>ENVIR ST/ZOOLOGY 315</td>
<td>Limnology-Conservation of Aquatic Resources</td>
</tr>
<tr>
<td>ENVIR ST/ZOOLOGY 510</td>
<td>Ecology of Fishes</td>
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<tr>
<td>ENVIR ST/ZOOLOGY 511</td>
<td>Ecology of Fishes Lab</td>
</tr>
<tr>
<td>F&amp;W ECOL 306</td>
<td>Terrestrial Vertebrates: Life History and Ecology</td>
</tr>
<tr>
<td>F&amp;W ECOL 401</td>
<td>Physiological Animal Ecology</td>
</tr>
<tr>
<td>F&amp;W ECOL/SURG SCI 548</td>
<td>Diseases of Wildlife</td>
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<tr>
<td>F&amp;W ECOL 655</td>
<td>Animal Population Dynamics</td>
</tr>
<tr>
<td>GEOSCI 333</td>
<td>The Age of Dinosaurs</td>
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<tr>
<td>GEOSCI/ZOOLOGY 541</td>
<td>Paleobiology</td>
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</tbody>
</table>
### Electives

**Code** | **Title** | **Credits**
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#### Social Science Electives

Complete at least one 3 credit course from Social Science elective list:

- A A E 215  
  Introduction to Agricultural and Applied Economics

- A A E/ENVIR ST 244  
  The Environment and the Global Economy

- BOTANY/AMER IND/ANTHRO 474  
  Ethnobotany

- C&E SOC/SOC 140  
  Introduction to Community and Environmental Sociology

- C&E SOC/F&W ECOL/SOC 248  
  Environment, Natural Resources, and Society

- ECON 101  
  Principles of Microeconomics

- ECON/ENVIR ST/URB R PL 449  
  Government and Natural Resources

- ENVIR ST/GEOG 139  
  Global Environmental Issues

- ENVIR ST/AMER IND 306  
  Indigenous Peoples and the Environment

- ENVIR ST/GEOG 339  
  Environmental Conservation

- ENVIR ST/PL PATH 368  
  Environmental Law, Toxic Substances, and Conservation

- ENVIR ST/PHILOS 441  
  Environmental Ethics

- ENVIR ST/GEOG/HISTORY 460  
  American Environmental History

- ENVIR ST/GEOG/HISTORY 469  
  The Making of the American Landscape

- GEOG 344  
  Changing Landscapes of the American West

- GEOG 359  
  Australia: Environment and Society

- GEOG 538  
  The Humid Tropics: Ecology, Subsistence, and Development

**Electives to attain 50 credits in the major**

- AGRONOMY/ENTOM/F&W ECOL/M&ENVTOX 632  
  Ecotoxicology: The Chemical Players

- AGRONOMY/ENTOM/F&W ECOL/M&ENVTOX 633  
  Ecotoxicology: Impacts on Individuals

- AGRONOMY/ENTOM/F&W ECOL/M&ENVTOX 634  
  Ecotoxicology: Impacts on Populations, Communities and Ecosystems

- ATM OCN 100  
  Weather and Climate

- ATM OCN 101  
  Weather and Climate

- ATM OCN/ENVIR ST 171  
  Global Change: Atmospheric Issues and Problems

- BOTANY/PL PATH 123  
  Plants, Parasites, and People

- BOTANY/ENVIR ST/ZOOLOGY 260  
  Introductory Ecology

- BOTANY/ENVIR ST/ZOOLOGY 300  
  Plant Anatomy

- BOTANY/ENTOM/PL PATH 505  
  Plant-Microbe Interactions: Molecular and Ecological Aspects

- BOTANY/ENVIR ST/F&W ECOL/ZOOLOGY 651  
  Conservation Biology

- C&E SOC/ENVIR ST/GEOG 434  
  People, Wildlife and Landscapes

- ENTOM/ENVIR ST 201  
  Insects and Human Culture-a Survey Course in Entomology

- ENTOM/ZOOLOGY 540  
  Theoretical Ecology

- ENTOM 699  
  Special Problems

- ENVIR ST/ILS 126  
  Principles of Environmental Science

- ENVIR ST/GEOG/SOIL SCI 230  
  Soil: Ecosystem and Resource

- ENVIR ST 307  
  Literature of the Environment: Speaking for Nature

- ENVIR ST/SOIL SCI 324  
  Soils and Environmental Quality
**RESIDENCE AND QUALITY OF WORK**

- 2.000 GPA in all major courses
- 2.000 GPA on 15 upper-level major credits, taken in residence
- 15 credits in the major, taken on the UW-Madison campus

**HONORS IN THE MAJOR**

Students may declare Honors in the Conservation Biology Major in consultation with the Conservation Biology undergraduate advisor.

**HONORS IN THE CONSERVATION BIOLOGY MAJOR REQUIREMENTS**

To earn Honors in the Major in Conservation Biology, students must satisfy both the requirements for the major (above) and the following additional requirements:

- Earn a 3.300 overall university GPA
- Complete at least 16 credits, taken for Honors, with a grade of B or better, in the conservation biology major, to include a two-semester Senior Honors Thesis in an appropriate department

**FOOTNOTES**

1. Students may NOT apply both ZOOLOGY 425 Behavioral Ecology and PSYCH 449 Animal Behavior in the conservation biology program.

2. Courses in the major numbered 300 through 699 are considered upper level.

3. Examples include Botany, Zoology, Environmental Studies; see the Conservation Biology advisor to verify that your thesis department will be acceptable.

**UNIVERSITY DEGREE REQUIREMENTS**

**Total Degree**

To receive a bachelor’s degree from UW–Madison, students must earn a minimum of 120 degree credits. The requirements for some programs may exceed 120 degree credits. Students should consult with their college or department advisor for information on specific credit requirements.

**Residency**

Degree candidates are required to earn a minimum of 30 credits in residence at UW–Madison. "In residence" means on the UW–Madison campus with an undergraduate degree classification. "In residence" credit also includes UW–Madison courses offered in distance or online formats and credits earned in UW–Madison Study Abroad/Study Away programs.

**Quality of Work**

Undergraduate students must maintain the minimum grade point average specified by the school, college, or academic program to remain in good academic standing. Students whose academic performance drops below these minimum thresholds will be placed on academic probation.