FOREST SCIENCE, B.S.

Forest ecosystems cover one third of the world’s land area and nearly half of Wisconsin. They provide a range of benefits to society including wood and fiber, wildlife habitat, biological diversity, clean water, carbon storage, recreation, beauty, and cultural values. The Department of Forest and Wildlife Ecology trains foresters to sustainably manage forests toward sustainable ecological, social, and economic outcomes. Forest science students also learn how to respond to forest disturbances from insects, diseases, fire, and other changes. Beyond a core of basic science and forestry coursework, students have flexibility to customize their learning experience within one of three tracks: forest conservation, forests and the environment, and forest management. All three tracks meet accreditation standards of the Society of American Foresters, a key credential that employers seek. Students are also well positioned to pursue graduate training in forestry, ecology, remote-sensing, natural resource policy, and related fields.

Students learn through a mix of classroom, laboratory, and field instruction that emphasizes independent thinking and problem-solving. Students make frequent visits to forests to develop and hone their skills, essential for future job opportunities. Students also engage professional and student-led trainings and networking that further build skills. Graduates go on to jobs in private, public, and non-governmental sectors or pursue graduate degrees.

HOW TO GET IN

To declare this major, students must be admitted to UW–Madison and the College of Agricultural and Life Sciences (CALS). For information about becoming a CALS first-year or transfer student, see Entering the College (http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#enteringthecollegenote).

Students who attend Student Orientation, Advising, and Registration (SOAR) with the College of Agricultural and Life Sciences have the option to declare this major at SOAR. Students may otherwise declare after they have begun their undergraduate studies. For more information, contact the advisor listed under the Advising and Careers tab.

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.

COLLEGE OF AGRICULTURAL AND LIFE SCIENCES REQUIREMENTS

In addition to the University General Education Requirements, all undergraduate students in CALS must satisfy a set of college and major requirements. Courses may not double count within university requirements (General Education and Breadth) or within college requirements (First-Year Seminar, International Studies, Science, and Capstone), but courses counted toward university requirements may also be used to satisfy a college and/or a major requirement; similarly, courses counted toward college requirements may also be used to satisfy a university and/or a major requirement.

COLLEGE REQUIREMENTS FOR ALL CALS B.S. DEGREE PROGRAMS

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Quality of Work: Students must maintain a minimum cumulative grade point average of 2.000 to remain in good standing and be eligible for graduation.</td>
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<tr>
<td></td>
<td>Residency: Students must complete 30 degree credits in residence at UW–Madison after earning 86 credits toward their undergraduate degree.</td>
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<tr>
<td></td>
<td>First Year Seminar (<a href="http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#requirementstext">http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#requirementstext</a>)</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>International Studies (<a href="http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#requirementstext">http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#requirementstext</a>)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Physical Science Fundamentals</td>
<td>4-5</td>
</tr>
<tr>
<td>CHEM 103</td>
<td>General Chemistry I</td>
<td></td>
</tr>
<tr>
<td>or CHEM 108</td>
<td>Chemistry in Our World</td>
<td></td>
</tr>
<tr>
<td>or CHEM 109</td>
<td>Advanced General Chemistry</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Biological Science</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Additional Science (Biological, Physical, or Natural)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Science Breadth (Biological, Physical, Natural, or Social)</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>CALS Capstone Learning Experience: included in the requirements for each CALS major (see ‘Major Requirements’) (<a href="http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#requirementstext">http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#requirementstext</a>)</td>
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MAJOR REQUIREMENTS

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Select one of the following (or may be satisfied by placement exam):</td>
<td>5-6</td>
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</table>

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.
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 112 &amp; MATH 113</td>
<td>Algebra and Trigonometry</td>
</tr>
<tr>
<td>MATH 114</td>
<td>Algebra and Trigonometry</td>
</tr>
</tbody>
</table>

Select one of the following: 

- STAT 301 Introduction to Statistical Methods
- STAT 371 Introductory Applied Statistics for the Life Sciences (recommended)

### Chemistry
Select one of the following: 

- CHEM 103 General Chemistry I
- CHEM 108 Chemistry in Our World
- CHEM 109 Advanced General Chemistry

### Biology
Select one of the following options: 

#### Option 1 (recommended introduction to biology sequence):

- BOTANY/BOTANY 130 General Botany and Animal Biology
- BIOLOGY 101 and Animal Biology Laboratory
- & ZOOLOGY 102

#### Option 2:

- BIOLOGY/BOTANY/ZOOLOGY 151 Introductory Biology and Introductory Biology
- & BIOLOGY/ZOOLOGY 152

#### Option 3:

- BIOCORE 381 Evolution, Ecology, and Genetics
- & BIOCORE 382 and Evolution, Ecology, and Genetics Laboratory
- & BIOCORE 383 and Cellular Biology Laboratory
- & BIOCORE 384 and Cellular Biology Laboratory

### Economics

A A E 215 Introduction to Agricultural and Applied Economics ¹

or ECON 101 Principles of Microeconomics

### Conservation
Select one of the following: 

- ENVIR ST/LAND ARC 361 Wetlands Ecology
- F&W ECOL/ENVIR ST/ZOOLOGY 360 Extinction of Species (recommended) ³
- F&W ECOL/LAND ARC/ZOOLOGY 565 Principles of Landscape Ecology
- F&W ECOL/BOTANY/ENVIR ST/ZOOLOGY 651 Conservation Biology (recommended)
- GEOG/ENVIR ST 339 Environmental Conservation

### Grade of C or better required in each core course

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOIL SCI 301</td>
<td>General Soil Science</td>
</tr>
<tr>
<td>F&amp;W ECOL 300</td>
<td>Forest Biometry</td>
</tr>
<tr>
<td>GEOG/CIV ENGR/ENVIR ST 377 or F&amp;W ECOL/ENVIR ST/G L E/GEOG/GEOSCI/LAND ARC 371</td>
<td>An Introduction to Geographic Information Systems or Introduction to Environmental Remote Sensing</td>
</tr>
<tr>
<td>F&amp;W ECOL/HORT/LAND ARC/PL PATH 309</td>
<td>Diseases of Trees and Shrubs</td>
</tr>
<tr>
<td>F&amp;W ECOL 399</td>
<td>Coordinative Internship/Cooperative Education</td>
</tr>
</tbody>
</table>

### Electives
Select one of the following tracks:

- Forest Management Track
- Forest Conservation Track
- Forests & Environment Track

### Capstone
Grade of C or better required in Capstone

F&W ECOL 590 Integrated Resource Management

### Total Credits

| Total Credits | 84-96 |

¹ A A E 215 only carries QR-B credit if taken fall 2011 or later.
² These courses may double count as track electives.
³ F&W ECOL/ENVIR ST/ZOOLOGY 360 Extinction of Species may also fulfill CALS International Studies requirement.

**MINIMUM GRADE REQUIREMENT**

Students who declare the major in fall 2012 or later will be required to receive a grade of C or higher in all of the Forest Science Core courses and the Capstone. Students who receive a grade of D or below will be required to retake the course for graduation.
### TRACKS

#### FOREST MANAGEMENT TRACK

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Select 12 credits from any of the following courses:</td>
<td>12</td>
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</tbody>
</table>

**Soils and Landscapes:**
- F&W ECOL/ LAND ARC/ ZOOLOGY 565 Principles of Landscape Ecology
- GEOG 329 Landforms and Landscapes of North America
- SOIL SCI 325 Soils and Landscapes
- SOIL SCI/ F&W ECOL 451 Environmental Biogeochemistry

**Economics and Business:**
- A A E/ ENVIR ST 244 The Environment and the Global Economy
- A A E/ECON/ ENVIR ST 343 Environmental Economics
- A A 419 Agricultural Finance
- GEN BUS 310 Fundamentals of Accounting and Finance for Non-Business Majors
- GEN BUS 311 Fundamentals of Management and Marketing for Non-Business Majors
- INTL BUS 200 International Business
- LSC 270 Marketing Communication for the Sciences
- M H R 300 Managing Organizations
- M H R 305 Human Resource Management
- M H R 401 The Management of Teams
- OTM 300 Operations Management

**Urban and Wildland Forest Management:**
- ENVIR ST/ PL PATH 368 Environmental Law, Toxic Substances, and Conservation
- F&W ECOL 375 Special Topics (Tree Stability Analysis)
- HORT/ LAND ARC 263 Landscape Plants I
- HORT/ AGRONOMY/ SOIL SCI 326 Plant Nutrition Management
- HORT 375 Special Topics (Aboriculture)

**GIS/Remote Sensing:**
- ENVIR ST 400 Special Topics in the Environment: Biological Aspects of Envir St (Fieldcraft & Field Methods for Environmental Researchers)
- ENVIR ST/ CIV ENGR/ LAND ARC 556 Remote Sensing Digital Image Processing
- ENVIR ST/ SOIL SCI 575 Assessment of Environmental Impact
- ENVIR ST/ LAND ARC/ SOIL SCI 695 Applications of Geographic Information Systems in Natural Resources

### FOREST CONSERVATION TRACK

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Select 3 credits from each of the following areas:</td>
<td>3</td>
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</tbody>
</table>

**Plant Ecology and Diversity:**
- BOTANY/ PL PATH 332 Fungi
- BOTANY 401 Vascular Flora of Wisconsin
- BOTANY 422 Plant Geography
- BOTANY/ F&W ECOL 455 The Vegetation of Wisconsin
- F&W ECOL 635 Forest Stand Dynamics
- GEOG/ BOTANY 338 Environmental Biogeochemistry

**Animal Ecology and Diversity:**
- ENTOM/ ZOOLOGY 302 Introduction to Entomology
- ENTOM/BOTANY/ ZOOLOGY 473 Plant-Insect Interactions
- F&W ECOL 306 Terrestrial Vertebrates: Life History and Ecology
- F&W ECOL 375 Special Topics (Wildlife-Habitat Relationships)
<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>F&amp;W ECOL 655</td>
<td>Animal Population Dynamics</td>
<td></td>
</tr>
<tr>
<td>ZOOLOGY/ENVI R ST 315</td>
<td>Limnology-Conservation of Aquatic Resources</td>
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<tr>
<td>ZOOLOGY 316</td>
<td>Laboratory for Limnology-Conservation of Aquatic Resources</td>
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<tr>
<td>ZOOLOGY/ENVI R ST 510</td>
<td>Ecology of Fishes</td>
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<tr>
<td>ZOOLOGY/ENVI R ST 511</td>
<td>Ecology of Fishes Lab</td>
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<tr>
<td>ZOOLOGY/AN SCI/ F&amp;W ECOL 520</td>
<td>Ornithology</td>
<td></td>
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<tr>
<td>ZOOLOGY/AN SCI/ F&amp;W ECOL 521</td>
<td>Birds of Southern Wisconsin</td>
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<tr>
<td>ENVIR ST/LAND ARC 361</td>
<td>Wetlands Ecology</td>
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<tr>
<td>F&amp;W ECOL/ENVI R ST 306</td>
<td>Extinction of Species</td>
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<tr>
<td>F&amp;W ECOL/LAND ARC/ ZOOLOGY 565</td>
<td>Principles of Landscape Ecology</td>
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<tr>
<td>F&amp;W ECOL/BOTANY/ENVI R ST 565</td>
<td>Conservation Biology</td>
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<tr>
<td>GEOG/ENVI R ST 339</td>
<td>Environmental Conservation</td>
<td></td>
</tr>
<tr>
<td>ZOOLOGY/ANTHRO/BOTANY 410</td>
<td>Evolutionary Biology</td>
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<tr>
<td>A A E/ENVI R ST 244</td>
<td>The Environment and the Global Economy</td>
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<tr>
<td>A A E/ECON/ENVI R ST 343</td>
<td>Environmental Economics</td>
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<tr>
<td>A A E/ECON/ENVI R ST 531</td>
<td>Natural Resource Economics</td>
<td></td>
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<tr>
<td>ENVIR ST/PL PATH 368</td>
<td>Environmental Law, Toxic Substances, and Conservation</td>
<td></td>
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<tr>
<td>ENVI R ST/ECON/PO LI SCI/ URB R PL 449</td>
<td>Government and Natural Resources</td>
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<tr>
<td>ENVI R ST/SOIL SCI 575</td>
<td>Assessment of Environmental Impact</td>
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<tr>
<td>F&amp;W ECOL 379</td>
<td>Principles of Wildlife Management</td>
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<tr>
<td>F&amp;W ECOL/ENVI R ST/HISTORY 452</td>
<td>World Forest History</td>
<td></td>
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<tr>
<td>F&amp;W ECOL 561</td>
<td>Wildlife Management Techniques</td>
<td></td>
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<tr>
<td>F&amp;W ECOL/LAND ARC/ ZOOLOGY 565</td>
<td>Principles of Landscape Ecology</td>
<td></td>
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<tr>
<td>GEOG/CIV ENGR/ENVI R ST 377</td>
<td>An Introduction to Geographic Information Systems</td>
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<tr>
<td>LAND ARC 668</td>
<td>Restoration Ecology</td>
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</tbody>
</table>

**Total Credits:** 12

**FORESTS & ENVIRONMENT TRACK**

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ATM OCN 100</td>
<td>Weather and Climate</td>
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</tr>
<tr>
<td>ATM OCN/ENVI R ST 171</td>
<td>Global Change: Atmospheric Issues and Problems</td>
<td></td>
</tr>
<tr>
<td>ATM OCN/ENVI R ST/GEOG 332</td>
<td>Global Warming: Science and Impacts</td>
<td></td>
</tr>
<tr>
<td>ATM OCN/ENVI R ST 535</td>
<td>Atmospheric Dispersion and Air Pollution</td>
<td></td>
</tr>
<tr>
<td>GEOG 329</td>
<td>Landforms and Landscapes of North America</td>
<td></td>
</tr>
<tr>
<td>GEOG 342</td>
<td>Geography of Wisconsin</td>
<td></td>
</tr>
<tr>
<td>MICROBIO 303</td>
<td>Biology of Microorganisms</td>
<td></td>
</tr>
<tr>
<td>MICROBIO 304</td>
<td>Biology of Microorganisms Laboratory</td>
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</tr>
<tr>
<td>SOIL SCI 321</td>
<td>Soils and Environmental Chemistry</td>
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<tr>
<td>SOIL SCI/PL PATH 323</td>
<td>Soil Biology</td>
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<tr>
<td>SOIL SCI 325</td>
<td>Soils and Landscapes</td>
<td></td>
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<tr>
<td>SDI SCI</td>
<td>Environmental Biogeochemistry</td>
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<tr>
<td>F&amp;W ECOL 451</td>
<td>Principles of Landscape Ecology</td>
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</tr>
<tr>
<td>BOTANY/PL PATH 332</td>
<td>Fungi</td>
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<tr>
<td>BOTANY 401</td>
<td>Vascular Flora of Wisconsin</td>
<td></td>
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<tr>
<td>BOTANY 422</td>
<td>Plant Geography</td>
<td></td>
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<tr>
<td>BOTANY/F&amp;W ECOL 455</td>
<td>The Vegetation of Wisconsin</td>
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<td>BOTANY/F&amp;W ECOL/ZOOLOGY 460</td>
<td>General Ecology</td>
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<tr>
<td>ENTOM/ZOOLOGY 302</td>
<td>Introduction to Entomology</td>
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</tr>
<tr>
<td>ENTOM/BOTANY/ZOOLOGY 473</td>
<td>Plant-Insect Interactions</td>
<td></td>
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<tr>
<td>ENVIR ST/LAND ARC 361</td>
<td>Wetlands Ecology</td>
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<td>F&amp;W ECOL 306</td>
<td>Terrestrial Vertebrates: Life History and Ecology</td>
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<tr>
<td>F&amp;W ECOL 318</td>
<td>Principles of Wildlife Ecology</td>
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<tr>
<td>F&amp;W ECOL/ENVI R ST/ZOOLOGY 360</td>
<td>Extinction of Species</td>
<td></td>
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<tr>
<td>F&amp;W ECOL 375</td>
<td>Special Topics (Wildlife-Habitat Relationships)</td>
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<tr>
<td>F&amp;W ECOL/LAND ARC/ZOOLOGY 565</td>
<td>Principles of Landscape Ecology</td>
<td></td>
</tr>
<tr>
<td>F&amp;W ECOL 635</td>
<td>Forest Stand Dynamics</td>
<td></td>
</tr>
</tbody>
</table>
Conservation Biology
Animal Population Dynamics
Limnology-Conservation of Aquatic Resources
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Ecology of Fishes
Ecology of Fishes Lab
Ornithology
Birds of Southern Wisconsin

Renewable Energy Systems
Energy Resources
Assessment of Environmental Impact
Energy Economics
Principles of Wildlife Management
An Introduction to Geographic Information Systems
Introduction to Plant Pathology
Restoration Ecology

The Environment and the Global Economy
Environmental Economics
Natural Resource Economics
Environment, Natural Resources, and Society
Literature of the Environment: Speaking for Nature
History of Ecology
Environmental Law, Toxic Substances, and Conservation
Environmental Ethics
American Environmental History
World Forest History

Conservation Biology
Forest Science, B.S.
5
F&W ECOL/ BOTANY/ ENVR ST/ ZOOLOGY 651
F&W ECOL 655
ZOOLOGY/ ENVIR ST 315
ZOOLOGY 316
ZOOLOGY/ ENVIR ST 510
ZOOLOGY/ ENVIR ST 511
ZOOLOGY/ AN SCI/ F&W ECOL 520
ZOOLOGY/ AN SCI/ F&W ECOL 521

Natural Resources Management:
ENVIR ST/ BSE 367
ENVIR ST/ GEOSCI 411
ENVIR ST/ SOIL SCI 575
ENVIR ST/ A A E/ECON/ URB R PL 671
F&W ECOL 379
GEOG/CIV ENGR/ ENVIR ST 377
PL PATH 300
LAND ARC 668

Human Dimensions of Resources:
A A E/ ENVIR ST 244
A A E/ECON/ ENVIR ST 343
A A E/ECON/ F&W ECOL 531
C&E SOC/ F&W ECOL/ SOC 248
ENVIR ST 307
ENVIR ST/ HIST SCI 353
ENVIR ST/ PL PATH 368
ENVIR ST/ PHILOS 441
ENVIR ST/GEOG/ HISTORY 460
F&W ECOL/ ENVIR ST/ HISTORY 452

GEOG/ ENVIR ST 339
Environmental Conservation
Total Credits 12

HONORS IN THE MAJOR
Admission to the Honors Program is not competitive provided students meet the required admission criteria.

Admission Criteria for New Freshmen:
• In the upper 10% of their high school graduating class
• ACT score of 28 or higher
• SAT score of at least 1240

Admission Criteria for Transfer and Continuing UW-Madison Students:
• UW-Madison cumulative GPA of at least 3.25

Highly motivated students can apply for admission to the program in the absence of these requirements by including a letter with their application addressed to the Honors Dean in 116 Agricultural Hall explaining why they should be in the program.

HOW TO APPLY
Apply to the program online (https://cals.wisc.edu/wp-content/uploads/2017/05/honorsapplication_form.pdf) or request an application in the Office of Academic Affairs, 116 Agricultural Hall. Applications are accepted at any time.

New freshmen with accepted applications will automatically be enrolled in Honors in Research. It is possible to switch to Honors in the Major in the student’s first semester on campus after meeting with the advisor for that major by completing the application form and selecting Honors in the Major. Transfer and continuing students may apply directly to Honors in Research or Honors in the Major (after meeting with the major advisor).

HOW TO CANCEL PARTICIPATION
Students who are no longer interested in pursuing Honors should contact the CALS Honors Program Manager (see the contact box for CALS Honors Program (http://guide.wisc.edu/undergraduate/agricultural-life-sciences/college-wide/cals-agricultural-life-sciences-honors/)). Students may cancel their participation at any time, and this will not be noted on the student’s transcript.

REQUIREMENTS
To earn Honors in the Major, students are required to take at least 20 honors credits. In addition, students must take F&W ECOL 681 Senior Honors Thesis and F&W ECOL 682 Senior Honors Thesis when completing their thesis project; please see the Honors in Major Checklist (http://www.cals.wisc.edu/academics/undergraduate-programs/get-involved/honors-program/honors-in-the-major/) for more information.

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.

LEARNING OUTCOMES
1. (Ecology) Understanding of taxonomy and ability to identify forest and other tree species, their distribution, and associated vegetation and wildlife.
2. (Ecology) Understanding of soil properties and processes, hydrology, water quality, and watershed functions.
3. (Ecology) Understanding of ecological concepts and principles including the structure and function of ecosystems, plant and animal communities, competition, diversity, population dynamics, succession, disturbance, and nutrient cycling.
4. (Ecology) Ability to make ecosystem, forest, and stand assessments.
5. (Ecology) Understanding of tree physiology and the effects of climate, fire, pollutants, moisture, nutrients, genetics, insects and diseases on tree and forest health and productivity.
6. (Forest Resources Measurement and Management) Ability to identify and measure land areas and conduct spatial analysis.
7. (Forest Resources Measurement and Management) Ability to design and implement comprehensive inventories that meet specific objectives using appropriate sampling methods and units of measurement.
8. (Forest Resources Measurement and Management) Ability to analyze inventory data and project future forest, stand, and tree conditions.
9. (Forest Resources Measurement and Management) Ability to develop and apply silvicultural prescriptions appropriate to management objectives, including methods of establishing and influencing the composition, growth, and quality of forests, and understand the impacts of those prescriptions.
10. (Forest Resources Measurement and Management) Ability to analyze the economic, environmental, and social consequences of forest resource management strategies and decisions.
11. (Forest Resources Measurement and Management) Ability to develop management plans with specific multiple objectives and constraints.
12. (Forest Resources Measurement and Management) Understanding of the valuation procedures, market forces, processing systems, transportation and harvesting activities that translate human demands for timber-based and other consumable forest products into the availability of those products.
13. (Forest Resources Measurement and Management) Understanding of the valuation procedures, market, and non-market forces that avail humans the opportunities to enjoy non-consumptive products and services of forests.
14. (Forest Resources Measurement and Management) Understanding of the administration, ownership, and organization of forest management enterprises.
15. (Forest Resource Policy, Economics, and Administration) Understanding of forest policy and the processes by which it is developed.
16. (Forest Resource Policy, Economics, and Administration) Understanding of how federal, state, and local laws and regulations govern the practice of forestry.
17. (Forest Resource Policy, Economics, and Administration) Ability to understand the integration of technical, financial, human resources, and legal aspects of public and private enterprises.

FOUR-YEAR PLAN

FOUR-YEAR PLAN
SAMPLE FOREST SCIENCE FOUR-YEAR PLAN

Freshman
Fall Credits Spring Credits
F&W ECOL/ ENVIR ST 100 3 MATH 113 or 114 3
Economics Course 3-4 CHEM 103, 108, or 109 4-5
MATH 112, 113, or 114 3 BOTANY/BIOLOGY 130 2 5
COMM A Course 3 Electives (to reach ~15 credits) 0-4
INTER-AG 155 (First Year Seminar) 1
Electives (to reach ~15 credits) 0-3

Total Credits 25-34

Sophomore
Fall Credits Spring Credits
ZOOGOLOGY/BIOLOGY 101 & ZOOLOGY/ BIOLOGY 102 5 F&W ECOL 300 4
SOIL SCI 301 4 GEOG/CIV ENGR/ ENVIR ST 377 4
F&W ECOL/BOTANY 402 2 Statistics Courses 9
F&W ECOL 415 3

14 17

Total Credits 31

Sophomore
Spring Credits
F&W ECOL 658 (even #’d summers) 3

3

Total Credits 3

Junior
Fall Credits Spring Credits
F&W ECOL 550 3 F&W ECOL 410 3
F&W ECOL/ENTOM 500 (odd falls only) 2 F&W ECOL 501 (odd springs only) 1
Track Course 3
Elective Courses 4
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Total Credits 25

Junior
Summer Credits
F&W ECOL 399\(^4\) 1
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Total Credits 1

Senior
Fall Credits Spring Credits
F&W ECOL 590 (Capstone) 3 F&W ECOL/A A E/ ENVIR ST 652 4
F&W ECOL/HORT/LAND ARC/PL PATH 309 3 F&W ECOL/ ENVIR ST 515 3
Conservation Course (or spring) 2-4 Track Course 3
Track Course 3 Electives 6
Electives (to reach ~15 credits) 3
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14-16 16
Total Credits 30-32

1 When choosing electives, students should first consider UW and CALS requirements (ethnic studies, humanities, social science, international studies, etc.)
2 BOTANY/BIOLOGY 130 + ZOOLOGY/BIOLOGY 101 & ZOOLOGY/BIOLOGY 102 are strongly recommended to satisfy the introductory biology requirement for forest science, but students may use ZOOLOGY/BIOLOGY 101 & ZOOLOGY/BIOLOGY 102.
3 F&W ECOL/ENVIR ST/G E/O/GEOG/GEOSCI/LAND ARC 371 is available in fall semesters only.
4 Summer (following second or third year): F&W ECOL 658 (3 cr., even-numbered summers) and F&W ECOL 399 (1 cr.)—4 cr. total. Students may reduce the number of required courses via: testing out of Comm-A, using ZOOLOGY/BIOLOGY/BOTANY 152 to satisfy Comm-B, testing out of Quantitative Reasoning, Part A; earning AP/IB credits; and/or using F&W ECOL/ENVIR ST/ZOOLOGY 360 to satisfy International Studies requirement.

Although drop-ins and emergencies may be accommodated by someone in the department, the student is best served by making an appointment with the assigned advisor.

For more information about the forest science B.S. or the department in general, please contact the student services coordinator, Todd Courtenay (todd.courtenay@wisc.edu).

CAREERS AND PROFESSIONAL DEVELOPMENT

For more information on careers available to forest science and wildlife ecology students, please visit our Internship & Job Resources page (https://forestandwildlifeecology.wisc.edu/academics/undergraduate-programs/internship-job-resources/). For more information on other academic, co-curricular, financial aid, and career opportunities and services available to forest science B.S. students, please visit the CALS Career Services page (https://cals.wisc.edu/academics/undergraduate-students/career-services/). Students in the major are welcome to make an individual appointment with Todd Courtenay (todd.courtenay@wisc.edu) to discuss a number of career-related topics such as career exploration, search strategies, graduate school, and review of application materials (resume, CV, letters, etc.).

The federal Bureau of Labor Statistics updated its Career Outlook: Careers in Forestry (http://www.bls.gov/careeroutlook/2016/article/forestry-careers.htm) page in August 2016 and it gives a great overview of the types of jobs related to forestry. This website is an excellent way to learn more about careers in forestry, upcoming trends, and related careers.

PEOPLE

FACULTY
Bowe, Scott
Burivalova, Zuzana
Drake, David
Hart, Sarah
Karasov, William
Kruger, Eric (chair)
Lutz, R. Scott
Ozdogan, Mutlu
Pauli, Jonathan
Peery, M. Zach
Pidgeon, Anna
Preston, Daniel
Radeloff, Volker
Ribic, Christine
Rickenbach, Mark
Rissman, Adena
Stanosz, Glen
Townsend, Philip
Van Deelen, Timothy
Zuckerberg, Benjamin

AFFILIATED FACULTY
Balster, Nick (Soil Science)
Lindroth, Richard (Entomology)
Marin-Spiotta, Erika (Geography)

ADVISING AND CAREERS

UNDERGRADUATE ADVISING IN FOREST SCIENCE

All undergraduate students are assigned to an advisor when they declare the major. If you were not assigned an advisor, do not know who your advisor is, would like to talk to someone about switching advisors, or if your advisor is not available, please contact our student services coordinator, Todd Courtenay (todd.courtenay@wisc.edu).

Undergraduates in forest science are required to meet with their advisor before they can enroll for the upcoming term. Please remember to bring a DARS report with you to any advising appointment. You can request a DARS through your student center in MyUW (http://my.wisc.edu/).
FACULTY ASSOCIATE

Berkelman, James

WISCONSIN EXPERIENCE

FORESTRY FIELD CAMP AT THE KEMP NATURAL RESOURCES STATION

F&W ECOL 658 Forest Resources Practicum is an intensive, three-week field course conducted in even-numbered years at the Kemp Natural Resources Station (http://www.kemp.wisc.edu/) in Woodruff, Wisconsin. Affectionately known as Forestry Camp, F&W ECOL 658 Forest Resources Practicum introduces students to the complexities of forest ecosystems. Through a series of integrated exercises, students learn firsthand about forest ecosystem structure, function, processes, and services. Along the way students develop the knowledge necessary to conduct a comprehensive forest resource assessment. Subject areas include: basic field skills, plant identification, GPS & GIS, timber cruising, forest soils, wildlife identification and survey methods, forest ecology, and forest habitat classification. Forestry Camp also provides students with opportunities to work closely with faculty and “real world” natural resource professionals in a beautiful north woods setting.

INTERNSHIPS

All forest science students are required to complete either an internship or professional work experience for their degree. Students are encouraged to talk to their advisor about internship possibilities and departmental internship policies. In order to receive credit for an internship for the forest science major, students must find an internship, get it approved by their advisor, and enroll in F&W ECOL 675 Professional Development in Forest & Wildlife Ecology in the following fall semester. Students who have questions about the internship can also talk to Todd Courtenay, the student services coordinator.

FORESTRY CLUB

Forest science undergraduates have an active student organization called the Forestry Club. For more information on the club and their activities, please see their Facebook Page (http://go.wisc.edu/pq634x/).

ACCREDITATION

Accreditation

Society of American Foresters (https://www.eforester.org/)