FOREST SCIENCE, BS

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 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 BS DEGREE PROGRAMS

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

First year seminar (http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#CALSFirstYearSeminarCourses) 1
International studies (http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#CALSInternationalStudiesCourses) 3
Physical science fundamentals 4-5

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 103</td>
<td>General Chemistry I</td>
<td>4</td>
</tr>
<tr>
<td>or CHEM 108</td>
<td>Chemistry in Our World</td>
<td>4</td>
</tr>
<tr>
<td>or CHEM 109</td>
<td>Advanced General Chemistry</td>
<td>4</td>
</tr>
</tbody>
</table>

Biological science 5

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additional science (biological, physical, or natural) 3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Science breadth (biological, physical, natural, or social) 3

CALS Capstone Learning Experience: included in the requirements for each CALS major (see "major requirements") (http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#CALSCapstoneRequirement) 3

MAJOR REQUIREMENTS

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

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 112</td>
<td>Algebra</td>
<td>3</td>
</tr>
<tr>
<td>&amp; MATH 113</td>
<td>and Trigonometry</td>
<td></td>
</tr>
<tr>
<td>MATH 114</td>
<td>Algebra and Trigonometry</td>
<td>3</td>
</tr>
</tbody>
</table>

Complete one of the following: 3

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>STAT 301</td>
<td>Introduction to Statistical Methods</td>
<td>3</td>
</tr>
<tr>
<td>STAT 371</td>
<td>Introductory Applied Statistics for the Life Sciences (recommended)</td>
<td></td>
</tr>
</tbody>
</table>

Chemistry

Complete one of the following: 4-5

<table>
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<td>CHEM 109</td>
<td>Advanced General Chemistry</td>
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</tr>
</tbody>
</table>

Biology

Complete one of the following options: 10

Option 1 (recommended introduction to biology sequence):

<table>
<thead>
<tr>
<th>Code</th>
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<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOTANY/</td>
<td>General Botany</td>
<td>3</td>
</tr>
<tr>
<td>BIOLOGY 130&amp; ZOOLOGY/</td>
<td>Animal Biology</td>
<td></td>
</tr>
<tr>
<td>BIOLOGY 101 &amp; ZOOLOGY/</td>
<td>Animal Biology Laboratory</td>
<td></td>
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<tr>
<td>BIOLOGY 102</td>
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<td></td>
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</table>

Option 2:

<table>
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<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOLOGY/</td>
<td>Introductory Biology</td>
<td>3</td>
</tr>
<tr>
<td>BOTANY/</td>
<td>and Introductory Biology</td>
<td></td>
</tr>
<tr>
<td>ZOOLOGY 151&amp; BIOLOGY/</td>
<td>and Introductory Biology</td>
<td></td>
</tr>
<tr>
<td>BOTANY/</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ZOOLOGY 152</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Option 3:
BIOCORE 381 & BIOCORE 382 & BIOCORE 383 & BIOCORE 384
Evolution, Ecology, and Genetics and Evolution, Ecology, and Genetics Laboratory and Cellular Biology and Cellular Biology Laboratory

Wildlife Ecology
Complete one of the following: 1

F&W ECOL 110 Living with Wildlife - Animals, Habitats, and Human Interactions
F&W ECOL/ENVIR ST/ZOOLOGY 360 Extinction of Species 2
F&W ECOL 379 Principles of Wildlife Management
F&W ECOL/AN SCI/ZOOLOGY 520 Ornithology

Core
Complete all of the following courses (grade of C or better required in each core course):

SOIL SCI 301 General Soil Science 3
or SOIL SCI/ENVIR ST/GEOG 230 Soil: Ecosystem and Resource
F&W ECOL 300 Forest Measurements 4
GEOG/CIV ENGR/ENVIR ST 377 An Introduction to Geographic Information Systems 3-4
or F&W ECOL/ENVIR ST/G L E/GEOG/GEOSCI/LAND ARC 371 Introduction to Environmental Remote Sensing
BOTANY/F&W ECOL 402 Dendrology: Woody Plant Identification and Ecology 3
F&W ECOL 305 Forest Operations 2
F&W ECOL 390 Learning to Action: Professional Development 1
F&W ECOL 410 Principles of Silviculture 4
& F&W ECOL 411 and Practices of Silviculture
ENVIR ST/F&W ECOL 515 Natural Resources Policy (recommended, satisfies Communications B requirement) 3
or ENVIR ST/ECON/POLI SCI/URB R PL 449 Government and Natural Resources
or ENVIR ST/GEOG 439 US Environmental Policy and Regulation
F&W ECOL 448 Disturbance Ecology 5
& F&W ECOL 449 and Disturbance Ecology Lab (I): Herbivores and Fire
& F&W ECOL 450 and Disturbance Ecology Lab (II): Forest Pathogens
F&W ECOL 550 Forest Ecology 4
& F&W ECOL 551 and Forest Ecology Lab
A A E F&W ECOL 652 Decision Methods for Natural Resource Managers 3
F&W ECOL 658 Forest Resources Practicum 3

Electives
Complete 12 credits from Major Electives (see list below) 12

Capstone
Grade of C or better required in capstone.
F&W ECOL 590 Integrated Resource Management 3

Total Credits 78-81

1 Students may take multiple courses in this category. Courses taken beyond the requirement may count as major electives.
2 May also fulfill CALS international studies requirement.

MINIMUM GRADE REQUIREMENT
Students will be required to receive a grade of C or higher on 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.

MAJOR ELECTIVES

FOREST SCIENCE MAJOR ELECTIVES

Complete at least 12 credits from the following courses. 12
Students can focus their interests using the categories.

Soils and Landscapes:

F&W ECOL/LAND ARC/ZOOLOGY 565 Principles of Landscape Ecology
GEOG 329 Landforms and Landscapes of North America
LAND ARC 668 Restoration Ecology
SOIL SCI 302 Meet Your Soil: Soil Analysis and Interpretation Laboratory
SOIL SCI/F&W ECOL 451 Environmental Biogeochemistry

Economics and Business:

A A E 101 Introduction to Agricultural and Applied Economics
A A E/ENVIR ST 244 The Environment and the Global Economy
A A E/ECON/ENVIR ST 343 Environmental Economics
A A E/ECON 371 Energy, Resources and Economics
A A E 419 Agricultural Finance
ECON 101 Principles of Microeconomics
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 Leading Teams
OTM 300 Operations and Supply Chain Management

Urban and Wildland Forest Management:

BOTANY/F&W ECOL 455 The Vegetation of Wisconsin
Forest Science, BS

HORT/LAND ARC 263
   Landscape Plants I

HORT/AGRONOMY/SOIL SCI 326
   Plant Nutrition Management

GIS/Remote Sensing:
   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

   F&W ECOL 395
     Introduction to Cartography

   GEOG 370
     Introduction to Geocartography

   GEOG/CIV ENGR/ENVIR ST 377
     An Introduction to Geographic Information Systems

   GEOG 378
     Introduction to Geocomputing

Wildlife and Fisheries Ecology:
   GEOG/BOTANY 338
     Environmental Biogeography

   F&W ECOL 306
     Terrestrial Vertebrates: Life History and Ecology

   F&W ECOL 318
     Principles of Wildlife Ecology

   F&W ECOL 379
     Principles of Wildlife Management

   F&W ECOL 404
     Wildlife Damage Management

   F&W ECOL 655
     Animal Population Dynamics

   ZOOLOGY/ENVIR ST 315
     Limnology-Conservation of Aquatic Resources

   ZOOLOGY 316
     Laboratory for Limnology-Conservation of Aquatic Resources

   ZOOLOGY/ENVIR ST 510
     Ecology of Fishes

   ZOOLOGY/ENVIR ST 511
     Ecology of Fishes Lab

   ZOOLOGY/AN SCI/F&W ECOL 520
     Ornithology

   ZOOLOGY/AN SCI/F&W ECOL 521
     Birds of Southern Wisconsin

Ecology and Biological Diversity
   AGRONOMY/BOTANY/SOIL SCI 370
     Grassland Ecology

   ENTOM/ZOOLOGY 302
     Introduction to Entomology

   ENTOM/BOTANY/ZOOLOGY 473
     Plant-Insect Interactions

   BOTANY/PL PATH 332
     Fungi

   BOTANY/PL PATH 333
     Biology of the Fungi

   BOTANY 401
     Vascular Flora of Wisconsin

   BOTANY 422
     Plant Geography

   BOTANY/F&W ECOL/ZOOLOGY 460
     General Ecology

   F&W ECOL 458
     Environmental Data Science

   ZOOLOGY/F&W ECOL/LAND ARC 565
     Principles of Landscape Ecology

Conservation Biology
   F&W ECOL/ENVIR ST 100
     Forests of the World

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

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

   F&W ECOL/ZOOLOGY 660
     Climate Change Ecology

   GEOG/ENVIR ST 339
     Environmental Conservation

   LAND ARC/ENVIR ST 361
     Wetlands Ecology

   ZOOLOGY/ANTHRO/BOTANY 410
     Evolutionary Biology

Natural Resource Management and Policy
   A A E/ECON/F&W ECOL 531
     Natural Resource Economics

   ENVR ST/BSE 367
     Renewable Energy Systems

   ENVR ST/GEOSCI 411
     Energy Resources

   ENVR ST/ECON/POLI SCI/URB R PL 449
     Government and Natural Resources

   ENVR ST/A A E/ECON/URB R PL 671
     Energy Economics

   F&W ECOL 561
     Wildlife Management Techniques

   LAND ARC/ENVIR ST 581
     Prescribed Fire: Ecology and Implementation

   PL PATH 300
     Introduction to Plant Pathology

Earth and Atmospheric Science
   ATM OCN 100
     Weather and Climate

   ATM OCN 101
     Weather and Climate

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

   ATM OCN/ENVIR ST/GEOSCI 332
     Global Warming: Science and Impacts

   ATM OCN/ENVIR ST 535
     Atmospheric Dispersion and Air Pollution
HOW TO APPLY

The application is available on the CALS Honors Program website (https://cals.wisc.edu/academics/undergraduate/current-students/honors-program/). Applications are accepted at any time.

New first-year students 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 receiving approval from the advisor for that major. Transfer and continuing students may apply directly to Honors in Research or Honors in the Major (after approval from the major advisor).

REQUIREMENTS

All CALS Honors programs have the following requirements:

- Earn at least a cumulative 3.25 GPA at UW–Madison (some programs have higher requirements)
- Complete the program-specific requirements listed below
- Submit completed thesis documentation to CALS Academic Affairs

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 and F&W ECOL 682 when completing their thesis project; please see the honors program page (https://cals.wisc.edu/academics/undergraduate/current-students/honors-program/) 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.