

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

Code	Title	Credits
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.		
Residency: Students must complete 30 degree credits in residence at UW–Madison after earning 86 credits toward their undergraduate degree.		

first year seminar/ (http://guide.wisc.edu/undergraduate/agricultural-life-sciences/forest-wildlife-ecology/calsfirstyearseminarcourses/)	1
international studies/ (http://guide.wisc.edu/undergraduate/agricultural-life-sciences/forest-wildlife-ecology/calsinternationalstudiescourses/)	3
Physical science fundamentals	4-5
CHEM 103 or CHEM 108 or CHEM 109	General Chemistry I Chemistry in Our World Advanced General Chemistry
Biological science	5
Additional science (biological, physical, or natural)	3
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/forest-wildlife-ecology/calscapstonerequirement/)	

MAJOR REQUIREMENTS

Code	Title	Credits
Complete one of the following (or may be satisfied by placement exam):		5-6
MATH 112 & MATH 113	Algebra and Trigonometry	
MATH 114	Algebra and Trigonometry	
Complete one of the following:		3
STAT 301	Introduction to Statistical Methods	
STAT 371	Introductory Applied Statistics for the Life Sciences (recommended)	
Chemistry		
Complete one of the following:		4-5
CHEM 103	General Chemistry I	
CHEM 108	Chemistry in Our World	
CHEM 109	Advanced General Chemistry	
Biology		
Complete one of the following options:		10
Option 1 (recommended introduction to biology sequence):		
BOTANY/ BIOLOGY 130 & ZOOLOGY/ BIOLOGY 101 & ZOOLOGY/ BIOLOGY 102	General Botany and Animal Biology and Animal Biology Laboratory	
Option 2:		
BIOLOGY/ BOTANY/ ZOOLOGY 151 & BIOLOGY/ BOTANY/ ZOOLOGY 152	Introductory Biology and Introductory Biology	
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
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Wildlife EcologyComplete one of the following: ¹ 3F&W ECOL 110 Living with Wildlife – Animals,
Habitats, and Human InteractionsF&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 SensingBOTANY/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 1F&W ECOL 410 Principles of Silviculture 4
& F&W ECOL 411 and Practices of SilvicultureENVIR ST/F&W 3 Natural Resources Policy 3
ECOL 515 (recommended, satisfies
Communications B requirement)or ENVIR ST/
ECON/POLI SCI/
URB R PL 449 Government and Natural Resourcesor ENVIR ST/
GEOG 439 US Environmental Policy and RegulationF&W ECOL 448 Disturbance Ecology 5
& F&W ECOL 449 and Disturbance Ecology Lab (I):
& F&W ECOL 450 Herbivores and Fire
and Disturbance Ecology Lab (II):
Forest PathogensF&W ECOL 550 Forest Ecology 4
& F&W ECOL 551 and Forest Ecology LabA 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****Code** **Title** **Credits**

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 EcologyGEOG 329 Landforms and Landscapes of
North America

LAND ARC 668 Restoration Ecology

SOIL SCI 302 Meet Your Soil: Soil Analysis and
Interpretation LaboratorySOIL SCI/
F&W ECOL 451 Environmental Biogeochemistry*Economics and Business:*A A E 101 Introduction to Agricultural and
Applied EconomicsA A E/
ENVIR ST 244 The Environment and the Global
EconomyA 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 MajorsGEN 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

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	
GEOG 370	Introduction to Cartography
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
ENVIR ST/ BSE 367	Renewable Energy Systems
ENVIR ST/ GEOSCI 411	Energy Resources
ENVIR ST/ ECON/POLI SCI/ URB R PL 449	Government and Natural Resources
ENVIR 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/ GEOG 332	Global Warming: Science and Impacts
ATM OCN/ ENVIR ST 535	Atmospheric Dispersion and Air Pollution

F&W ECOL/ SOIL SCI 451	Environmental Biogeochemistry
GEOG 342	Geography of Wisconsin
MICROBIO 303	Biology of Microorganisms
MICROBIO 304	Biology of Microorganisms Laboratory
SOIL SCI 321	Soils and Environmental Chemistry
SOIL SCI/ PL PATH 323	Soil Biology
<i>Human and Social Dimensions of Ecology</i>	
AMER IND/ ENVIR ST 306	Indigenous Peoples and the Environment
AMER IND/ ENVIR ST 341	Indigenous Environmental Communicators
AMER IND/ ENVIR ST/ GEOG 345	Caring for Nature in Native North America
AMER IND/ GEOG 410	Critical Indigenous Ecological Knowledges
AMER IND/ ANTHRO/ BOTANY 474	Ethnobotany
C&E SOC/ F&W ECOL/ SOC 248	Environment, Natural Resources, and Society
C&E SOC/ CURRIC/ ENVIR ST 405	Education for Sustainable Communities
C&E SOC/ SOC 541	Environmental Stewardship and Social Justice
ENVIR ST 307	Literature of the Environment: Speaking for Nature
ENVIR ST/ HIST SCI 353	History of Ecology
ENVIR ST/ PHILOS 441	Environmental Ethics
ENVIR ST/GEOG/ HISTORY 460	American Environmental History

Total Credits**12****HONORS IN THE MAJOR**

Students admitted to the university and to the College of Agricultural and Life Sciences are invited to apply to be considered for admission to the CALS Honors Program.

Admission Criteria for New First-Year Students:

- Complete program application including essay questions

Admission Criteria for Transfer and Continuing UW-Madison Students:

- UW-Madison cumulative GPA of at least 3.25
- Complete program application including essay questions

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.