

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 (<https://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 (https://guide.wisc.edu/undergraduate/agricultural-life-sciences/#CALSThirdYearSeminarCourses)	1
International studies (https://guide.wisc.edu/undergraduate/agricultural-life-sciences/#CALSIInternationalStudiesCourses)	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
CALC Capstone Learning Experience: included in the requirements for each CALS major (see "major requirements") (https://guide.wisc.edu/undergraduate/agricultural-life-sciences/#CALSCapstoneRequirement)	

MAJOR REQUIREMENTS

Code	Title	Credits
Mathematics		5-6
Statistics		3
Chemistry		4-5
Biology		10
Wildlife Ecology		3
Core		38-39
Major Electives		12
Capstone		3
Additional credits required to meet University General Education and College specific requirements		42
Total Credits		120

MATHEMATICS

Complete one of the following (or may be satisfied by placement exam):

Code	Title	Credits
MATH 112 & MATH 113	College Algebra and Trigonometry	6
MATH 114	Precalculus	5

STATISTICS

Complete one of the following:

Code	Title	Credits
STAT 301	Introduction to Statistical Methods	3
STAT 371	Introductory Applied Statistics for the Life Sciences	3

CHEMISTRY

Complete one of the following:

Code	Title	Credits
CHEM 103	General Chemistry I	4
CHEM 108	Chemistry in Our World	5
CHEM 109	Advanced General Chemistry	5

BIOLOGY

Complete one of the following sequences:

Code	Title	Credits
BIOLOGY/ BOTANY 130 & BIOLOGY/ ZOOLOGY 101 & BIOLOGY/ ZOOLOGY 102	General Botany and Animal Biology and Animal Biology Laboratory	10
BIOLOGY/BOTANY/ ZOOLOGY 151 & BIOLOGY/ BOTANY/ ZOOLOGY 152	Introductory Biology and Introductory Biology	10
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	10

WILDLIFE ECOLOGY

Complete one of the following courses. Courses completed beyond the requirement may count as major electives.

Code	Title	Credits
F&W ECOL 110	Living with Wildlife - Animals, Habitats, and Human Interactions	3
F&W ECOL/ ENVIR ST/ ZOOLOGY 360	Extinction of Species	3
F&W ECOL 379	Principles of Wildlife Management	3
F&W ECOL/AN SCI/ ZOOLOGY 520	Ornithology	3

CORE

Complete all of the following courses. A grade of C or better is required in each core course. Students who receive a grade of D or below will be required to retake the course to qualify for graduation.

Code	Title	Credits
SOIL SCI 301 or SOIL SCI/ ENVIR ST/ GEOG 230	General Soil Science Soil: Ecosystem and Resource	3
F&W ECOL 300	Forest Measurements	4
BOTANY/F&W ECOL 402	Dendrology: Woody Plant Identification and Ecology	3
F&W ECOL 395 or GEOG/ CIV ENGR/ ENVIR ST 377 or F&W ECOL/ ENVIR ST/G L E/ GEOG/GEOSCI/ LAND ARC 371	Data and GIS Tools for Ecology An Introduction to Geographic Information Systems Introduction to Environmental Remote Sensing	3-4
F&W ECOL 305	Forest Operations	2
F&W ECOL 390	Learning to Action: Professional Development	1

F&W ECOL 410 & F&W ECOL 411	Silviculture: Applied Forest Ecology and Practices of Silviculture	4
F&W ECOL/ A A E 430	Decision Methods for Natural Resource Managers	3
F&W ECOL 448 & F&W ECOL 449 & F&W ECOL 450	Disturbance Ecology and Disturbance Ecology Lab (I): Herbivores and Fire and Disturbance Ecology Lab (II): Forest Pathogens	5
ENVIR ST/F&W ECOL 515 or ENVIR ST/ ECON/POLI SCI/ URB R PL 449 or ENVIR ST/ GEOG 439 or ENVIR ST/ HISTORY/ LEGAL ST 430	Natural Resources Policy (recommended, satisfies Communications B requirement) Government and Natural Resources US Environmental Policy and Regulation Law and Environment: Historical and Contemporary Perspectives	3
F&W ECOL 550 & F&W ECOL 551	Forest Ecology and Forest Ecology Lab	4
F&W ECOL 658	Forest Resources Practicum	3

Total Credits **38-39**

MAJOR ELECTIVES

Complete at least 12 credits from the following courses.

Soils and Landscapes

Code	Title	Credits
F&W ECOL/ LAND ARC/ ZOOLOGY 565	Principles of Landscape Ecology	2
LAND ARC 668	Restoration Ecology	3
SOIL SCI 302	Meet Your Soil: Soil Analysis and Interpretation Laboratory	1
SOIL SCI/ F&W ECOL 451	Environmental Biogeochemistry	3

Economics and Business

Code	Title	Credits
A A E 101	Introduction to Agricultural and Applied Economics	4
A A E/ENVIR ST 244	The Environment and the Global Economy	4
A A E/ECON/ ENVIR ST 343	Environmental Economics	3-4
A A E/ECON 371	Energy, Resources and Economics	3
A A E 419	Agricultural Finance	3
ECON 101	Principles of Microeconomics	4
GEN BUS 310	Fundamentals of Accounting and Finance for Non-Business Majors	3
GEN BUS 311	Fundamentals of Management and Marketing for Non-Business Majors	3
INTL BUS 200	International Business	3
LSC 270	Marketing Communication for the Sciences	3

M H R 300	Managing Organizations	3
M H R 305	Human Resource Management	3
M H R 401	Leading Teams	3
OTM 300	Operations and Supply Chain Management	3

Urban and Wildland Forest Management

Code	Title	Credits
F&W ECOL 455		4
PLANTSCI/ LAND ARC 263	Woody Landscape Plant Identification, Culture, and Use	4
SOIL SCI 326	Plant Nutrition Management	3

GIS/Remote Sensing

Code	Title	Credits
ENVIR ST/ CIV ENGR/ LAND ARC 556	Remote Sensing Digital Image Processing	3
ENVIR ST/ SOIL SCI 575	Assessment of Environmental Impact	3
ENVIR ST/ LAND ARC/ SOIL SCI 695	Applications of Geographic Information Systems in Natural Resources	3
GEOG 370	Introduction to Cartography	4
ENVIR ST/ CIV ENGR/ GEOG 377	An Introduction to Geographic Information Systems	4
GEOG 378	Introduction to Geocomputing	4

Wildlife and Fisheries Ecology

Code	Title	Credits
GEOG/BOTANY 338	Environmental Biogeography	3
F&W ECOL 306	Terrestrial Vertebrates: Life History and Ecology	4
F&W ECOL 318	Principles of Wildlife Ecology	3
F&W ECOL 379	Principles of Wildlife Management	3
F&W ECOL 655	Animal Population Dynamics	3
ZOOLOGY/ ENVIR ST 315	Limnology-Conservation of Aquatic Resources	2
ZOOLOGY 316	Laboratory for Limnology-Conservation of Aquatic Resources	2-3
ZOOLOGY/ ENVIR ST 510	Ecology of Fishes	3
ZOOLOGY/ ENVIR ST 511	Ecology of Fishes Lab	2
ZOOLOGY/AN SCI/ F&W ECOL 520	Ornithology	3
ZOOLOGY/AN SCI/ F&W ECOL 521	Birds of Southern Wisconsin	3

Ecology and Biological Diversity

Code	Title	Credits
AGROECOL 370	Grassland Ecology	3
ENTOM/ ZOOLOGY 302	Introduction to Entomology	4
ENTOM/BOTANY/ ZOOLOGY 473	Plant-Insect Interactions	3

BOTANY/ PL PATH 332	Fungi	4
BOTANY/ PL PATH 333	Biology of the Fungi	2
BOTANY 401	Vascular Flora of Wisconsin	4
BOTANY 422	Plant Geography	3
BOTANY/ F&W ECOL/ ZOOLOGY 460	General Ecology	4
F&W ECOL 458	Environmental Data Science	3
LAND ARC/ F&W ECOL/ ZOOLOGY 565	Principles of Landscape Ecology	2

Conservation Biology

Code	Title	Credits
F&W ECOL/ ENVIR ST 100	Forests of the World	3
F&W ECOL/ ENVIR ST/ ZOOLOGY 360	Extinction of Species	3
F&W ECOL/ BOTANY/ENVIR ST/ ZOOLOGY 516	Conservation Biology	3
F&W ECOL/ ZOOLOGY 660	Climate Change Ecology	3
GEOG/ ENVIR ST 339	Environmental Conservation	4
LAND ARC/ ENVIR ST 361	Wetlands Ecology	3
ZOOLOGY/ ANTHRO/ BOTANY 410	Evolutionary Biology	3

Natural Resource Management and Policy

Code	Title	Credits
A A E/ECON/ F&W ECOL 531	Natural Resource Economics	3
BSE/ENVIR ST 367	Renewable Energy Systems	3
ENVIR ST/ GEOSCI 411	Energy Resources	3
ENVIR ST/ ECON/POLI SCI/ URB R PL 449	Government and Natural Resources	3-4
ECON/A A E/ ENVIR ST/ URB R PL 671	Energy Economics	3
F&W ECOL 561	Wildlife Management Techniques	3
LAND ARC/ ENVIR ST 581	Prescribed Fire: Ecology and Implementation	3
PL PATH 300	Introduction to Plant Pathology	4

Earth and Atmospheric Science

Code	Title	Credits
ATM OCN 100	Weather and Climate	3
ATM OCN 101	Weather and Climate	4

ATM OCN/ ENVIR ST 171	Global Change: Atmospheric Issues and Problems	2-3
ATM OCN/ ENVIR ST/ GEOG 332	Global Warming: Science and Impacts	3
F&W ECOL/ SOIL SCI 451	Environmental Biogeochemistry	3
GEOG 342	Geography of Wisconsin	3
MICROBIO 303	Biology of Microorganisms	3
MICROBIO 304	Biology of Microorganisms Laboratory	2
SOIL SCI 323	Soil Biology	3
SOIL SCI 621	Soil and Environmental Chemistry	3

Human and Social Dimensions of Ecology

Code	Title	Credits
AMER IND/ ENVIR ST 306	Indigenous Peoples and the Environment	3
AMER IND/ ENVIR ST 341	Indigenous Environmental Communicators	3
AMER IND/ ENVIR ST/ GEOG 345	Caring for Nature in Native North America	3
AMER IND/ GEOG 410	Critical Indigenous Ecological Knowledges	3
AMER IND/ ANTHRO/ BOTANY 474	Ethnobotany	3-4
C&E SOC/ F&W ECOL/ SOC 248	Environment, Natural Resources, and Society	3
C&E SOC/CURRIC/ ENVIR ST 405	Education for Sustainable Communities	3
C&E SOC/SOC 541	Environmental Stewardship and Social Justice	3
ENVIR ST 307	Literature of the Environment: Speaking for Nature	3
ENVIR ST/ PHILOS 441	Environmental Ethics	3-4
ENVIR ST/GEOG/ HISTORY 460	American Environmental History	4

CAPSTONE

Students are required to receive a grade of C or higher on the forest science capstone. Students who receive a grade of D or below will be required to retake the course for graduation.

Code	Title	Credits
F&W ECOL 590	Integrated Resource Management	3

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.