AGROECOLOGY, 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/#CALSFirstYearSeminarCourses)		1
International studies (http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#CALSInternationalStudiesCourses)		3
Physical science fundamentals		4-5
CHEM 103	General Chemistry I	
or CHEM 108	Chemistry in Our World	
or CHEM 109	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/#CALSCapstoneRequirement)		

MAJOR REQUIREMENTS

Code	Title	Credits
Foundation		31-37
Major Core		6
Major Breadth		12
Major Depth		12
Capstone		3
Total Credits		**64-70**

FOUNDATION

Mathematics

Complete one of the following:

Code	Title	Credits
MATH 112 & MATH 113	Algebra and Trigonometry	6
MATH 114	Algebra and Trigonometry	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
C&E SOC/SOC 360	Statistics for Sociologists I	4

Chemistry

Complete one of the following:

Code	Title	Credits
CHEM 103 & CHEM 104	General Chemistry I and General Chemistry II	9
CHEM 109	Advanced General Chemistry	5

Biology

Complete one of the following options:

Code	Title	Credits
Option 1		
BIOLOGY/BOTANY/ ZOOLOGY 151	Introductory Biology	5
BIOLOGY/BOTANY/ ZOOLOGY 152	Introductory Biology	5
Total Credits		**10**

Code	Title	Credits
Option 2		
BOTANY/ BIOLOGY 130	General Botany	5
ZOOLOGY/ BIOLOGY 101	Animal Biology	3
ZOOLOGY/ BIOLOGY 102	Animal Biology Laboratory	2
Total Credits		**10**

Social Science

Complete the following courses:

Code	Title	Credits
C&E SOC/SOC 140	Introduction to Community and Environmental Sociology	4
A A E 101	Introduction to Agricultural and Applied Economics	4

MAJOR CORE

Complete the following courses:

Code	Title	Credits
AGROECOL/ AGRONOMY/ C&E SOC/ENTOM/ ENVIR ST 103	Agroecology: An Introduction to the Ecology of Food and Agriculture	3
AGROECOL 303	Agroecological Systems: Working Towards Sustainability	3

MAJOR BREADTH

Complete one course from each of four thematic areas (organisms, land, ecosystems, people) for a total of at least 12 credits. Courses cannot double count within the major.

Organisms

Code	Title	Credits
Growth, Development, Metabolism		
ENTOM/ ZOOLOGY 302	Introduction to Entomology	4
BOTANY 500	Plant Physiology	3-4
F&W ECOL 306	Terrestrial Vertebrates: Life History and Ecology	4
Evolution Breeding		
AN SCI/DY SCI 361	Introduction to Animal and Veterinary Genetics	2
AN SCI/DY SCI 363	Principles of Animal Breeding	2
AGRONOMY/ HORT 338	Plant Breeding and Biotechnology	3
GENETICS 466	Principles of Genetics	3
Applied Science		
ENTOM 351	Principles of Economic Entomology	3
PL PATH 300	Introduction to Plant Pathology	4
AGRONOMY/HORT/ SOIL SCI 326	Plant Nutrition Management	3

Land

Code	Title	Credits
Production Systems		
AGRONOMY 300	Cropping Systems	3
AGRONOMY/ DY SCI 471	Food Production Systems and Sustainability	3
PL PATH/HORT 261 & PL PATH/ HORT 262	Sustainable Turfgrass Use and Management and Turfgrass Management Laboratory	3
Soil Water Management		
SOIL SCI 301	General Soil Science	3
SOIL SCI 321	Soils and Environmental Chemistry	3
Geospatial Information Systems		
BSE 301	Land Information Management	3
F&W ECOL/ ENVIR ST/G L E/ GEOG/GEOSCI/ LAND ARC 371	Introduction to Environmental Remote Sensing	3
GEOG/CIV ENGR/ ENVIR ST 377	An Introduction to Geographic Information Systems	4
F&W ECOL 395	Data and GIS Tools for Ecology	3

Ecosystems

Code	Title	Credits
Patterns		
HORT/ AGRONOMY 376	Tropical Horticultural Systems	2
AGRONOMY/ BOTANY/ SOIL SCI 370	Grassland Ecology	3
PL PATH 315	Plant Microbiomes	4
HORT 320	Environment of Horticultural Plants	3
Processes		
SOIL SCI/ F&W ECOL 451	Environmental Biogeochemistry	3
SOIL SCI/ GEOG 526	Human Transformations of Earth Surface Processes	3
ENTOM/BOTANY/ ZOOLOGY 473	Plant-Insect Interactions	3
Landscape Interactions		
SOIL SCI/ ENVIR ST 324	Soils and Environmental Quality	3
ENTOM 450	Basic and Applied Insect Ecology	3
F&W ECOL 448	Disturbance Ecology	3

People

Code	Title	Credits
Food Health		
C&E SOC/A A E/ SOC 340	Issues in Food Systems	3-4
AGRONOMY 377	Global Food Production and Health	3
HORT/HIST SCI 301	(Horti)Cultural Roots: Human Histories of Plants and Science	4
C&E SOC/SOC 222	Food, Culture, and Society	3
AGRONOMY/A A E/ HORT/PL PATH 367	Introduction to Organic Agriculture: Production, Markets, and Policy	3
PL PATH 311	Global Food Security	3
A A E/AGRONOMY/ NUTR SCI 350	World Hunger and Malnutrition	3
Labor Justice		
C&E SOC/SOC 341	Labor in Global Food Systems	3
A A E/INTL ST 373	Globalization, Poverty and Development	3
Community Values		
C&E SOC/ F&W ECOL/ SOC 248	Environment, Natural Resources, and Society	3
A A E 422	Food Systems and Supply Chains	3
NUTR SCI 377	Cultural Aspects of Food and Nutrition	3

MAJOR DEPTH

Complete 12 credits in one of the four thematic areas (organisms, land, ecosystems, people). See list below. Courses cannot double count within the major.

Organisms

Code	Title	Credits
Growth, Development, Metabolism		
ENTOM/ ZOOLOGY 302	Introduction to Entomology	4
BOTANY 500	Plant Physiology	3-4
F&W ECOL 306	Terrestrial Vertebrates: Life History and Ecology	4
SOIL SCI/ PL PATH 323	Soil Biology	3
ENTOM 321	Physiology of Insects	3
PL PATH/ BOTANY 332	Fungi	2-4
or PL PATH/ BOTANY 333	Biology of the Fungi	
F&W ECOL 401	Physiological Animal Ecology	3
PL PATH/BOTANY/ ENTOM 505	Plant-Microbe Interactions: Molecular and Ecological Aspects	3
Evolution Breeding		
AN SCI/DY SCI 361	Introduction to Animal and Veterinary Genetics	2
AN SCI/DY SCI 363	Principles of Animal Breeding	2
AGRONOMY/ HORT 338	Plant Breeding and Biotechnology	3
ENTOM/GENETICS/ ZOOLOGY 624	Molecular Ecology	3
PL PATH 517	Plant Disease Resistance	2-3
AGRONOMY/ HORT 501	Principles of Plant Breeding	3
GENETICS 466	Principles of Genetics	3
Applied Science		
PL PATH 300	Introduction to Plant Pathology	4
AGRONOMY 302	Forage Management and Utilization	3
HORT 334	Greenhouse Cultivation	2
HORT/AGRONOMY/ SOIL SCI 326	Plant Nutrition Management	3
PL PATH 602	Ecology, Epidemiology and Control of Plant Diseases	3
PL PATH 559	Diseases of Economic Plants	3
ENTOM 351	Principles of Economic Entomology	3

Land

Code	Title	Credits
Production Systems		
PL PATH 300	Introduction to Plant Pathology	4
AGRONOMY/ DY SCI 471	Food Production Systems and Sustainability	3
Soil Water Management		
SOIL SCI 301	General Soil Science	3
SOIL SCI 321	Soils and Environmental Chemistry	3
BSE 473	Water Management Systems	3
Geospatial Information Systems		
BSE 301	Land Information Management	3
F&W ECOL/ ENVIR ST/G L E/ GEOG/GEOSCI/ LAND ARC 371	Introduction to Environmental Remote Sensing	3
GEOG/CIV ENGR/ ENVIR ST 377	An Introduction to Geographic Information Systems	4
F&W ECOL 395	Data and GIS Tools for Ecology	3
F&W ECOL 458	Environmental Data Science	3
SOIL SCI/ ENVIR ST 575	Assessment of Environmental Impact	3

Ecosystems

Code	Title	Credits
Patterns		
HORT/ AGRONOMY 376	Tropical Horticultural Systems	2
AGRONOMY/ BOTANY/ SOIL SCI 370	Grassland Ecology	3
PL PATH 315	Plant Microbiomes	4
HORT 320	Environment of Horticultural Plants	3
Processes		
SOIL SCI/ F&W ECOL 451	Environmental Biogeochemistry	3
BSE/AN SCI 344	Digital Technologies for Animal Monitoring	3

SOIL SCI/ GEOG 526	Human Transformations of Earth Surface Processes	3
ENTOM/BOTANY/ ZOOLOGY 473	Plant-Insect Interactions	3
AGRONOMY/ ATM OCN/ SOIL SCI 532	Environmental Biophysics	3
Landscape Interactions		
HORT 378	Tropical Horticultural Systems International Field Study	2
SOIL SCI/ ENVIR ST 324	Soils and Environmental Quality	3
ENTOM 450	Basic and Applied Insect Ecology	3
F&W ECOL 448	Disturbance Ecology	3

People

Code	Title	Credits
Food Health		
C&E SOC/A A E/ SOC 340	Issues in Food Systems	3-4
AGRONOMY 377	Global Food Production and Health	3
HORT/HIST SCI 301	(Horti)Cultural Roots: Human Histories of Plants and Science	4
C&E SOC/SOC 533	Public Health in Rural & Urban Communities	3
PL PATH 311	Global Food Security	3
AGRONOMY/A A E/ HORT/PL PATH 367	Introduction to Organic Agriculture: Production, Markets, and Policy	3
Labor Justice		
C&E SOC/SOC 341	Labor in Global Food Systems	3
C&E SOC/SOC 541	Environmental Stewardship and Social Justice	3
LSC 340	Misinformation, Fake News, and Correcting False Beliefs about Science	3
A A E/INTL ST 373	Globalization, Poverty and Development	3
Community Values		
AGRONOMY/ C&E SOC/ MED HIST/ PHILOS 565	The Ethics of Modern Biotechnology	3
C&E SOC/SOC/ URB R PL 617	Community Development	3
A A E 422	Food Systems and Supply Chains	3
C&E SOC/SOC 573	Community Organization and Change	3

AGROECOLOGY CAPSTONE

Complete the following course:

Code	Title	Credits
AGROECOL 503	Agroecology Capstone	3

Students considering post-graduate study should consult with their advisor and review the admissions requirements for graduate programs of interest. Post-graduate study may require preparatory coursework beyond the agroecology major requirements.

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.