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 university requirement and/or a college requirement. A minimum of 15 credits must be completed in the major that are not used to complete university or college requirements.

MAJOR REQUIREMENTS

Courses may not double count within the major (unless specifically noted otherwise), but courses counted toward the major requirements may also be used to satisfy a university requirement and/or a college requirement. A minimum of 15 credits must be completed in the major that are not used to complete university or college requirements.

COLLEGE REQUIREMENTS FOR ALL CALS BS 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>
</tbody>
</table>

First year seminar (http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#CALSFirstYearSeminarCourses)

International studies (http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#CALSInternationalStudiesCourses)

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></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>
</tbody>
</table>

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)

Core Mathematics

Complete one of the following (or may be satisfied by placement exam): 5-6

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 112 &amp; MATH 113</td>
<td>Algebra and Trigonometry</td>
<td></td>
</tr>
<tr>
<td>MATH 114</td>
<td>Algebra and Trigonometry</td>
<td></td>
</tr>
<tr>
<td>MATH 171</td>
<td>Calculus with Algebra and Trigonometry I</td>
<td></td>
</tr>
</tbody>
</table>

Core Chemistry

Complete one of the following: 5-9

<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></td>
</tr>
<tr>
<td>&amp; CHEM 104</td>
<td>and General Chemistry II</td>
<td></td>
</tr>
<tr>
<td>CHEM 109</td>
<td>Advanced General Chemistry</td>
<td></td>
</tr>
</tbody>
</table>

Introductory Biology

Complete one of the following options: 10

Option 1 (preferred):

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOLOGY/ &amp; BOTANY/</td>
<td>Introductory Biology and Introductory Biology</td>
<td></td>
</tr>
<tr>
<td>ZOOLOGY 151 &amp; BIOLOGY/ &amp; BOTANY/</td>
<td>and Introductory Biology</td>
<td></td>
</tr>
<tr>
<td>ZOOLOGY 152</td>
<td>Animal Biology Laboratory and General Botany</td>
<td></td>
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</tbody>
</table>

Option 2:

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

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

Core Physics
Complete one of the following: 4-5
PHYSICS 103 General Physics
PHYSICS 201 General Physics
PHYSICS 207 General Physics

Plant Pathology Core
PL PATH 300 Introduction to Plant Pathology 4
PL PATH/BOTANY 332 Fungi 4
Another PL PATH course numbered 300 and above 1 3

Capstone
PL PATH 590 Capstone in Plant Pathology 3

Focus Areas
Complete one of the following: 29-39
Plant-Microbe Biology Focus
Plant Health and Industry Focus

Total Credits 67-83

1 Not including PL PATH 375 Special Topics or independent study
2 MATH 221 Calculus and Analytic Geometry I/MATH 217 Calculus with Algebra and Trigonometry II is a prerequisite for MATH 222 Calculus and Analytic Geometry II

FOCUS AREAS

Plant-Microbe Biology Focus

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 211</td>
<td>Survey of Calculus</td>
<td>5</td>
</tr>
<tr>
<td>MATH 217</td>
<td>Calculus with Algebra and Trigonometry II</td>
<td></td>
</tr>
<tr>
<td>MATH 221</td>
<td>Calculus and Analytic Geometry I</td>
<td></td>
</tr>
<tr>
<td>STAT 301</td>
<td>Introduction to Statistical Methods</td>
<td></td>
</tr>
<tr>
<td>STAT 371</td>
<td>Introductory Applied Statistics for the Life Sciences</td>
<td></td>
</tr>
</tbody>
</table>

Additional Mathematics and Statistics
Complete one of the following: 5

Additional Chemistry
Complete one of the following options: 4-8
CHEM 343 Organic Chemistry I
& CHEM 344 and Introductory Organic Chemistry Laboratory
& CHEM 345 and Organic Chemistry II
CHEM 341 Elementary Organic Chemistry
& CHEM 342 and Elementary Organic Chemistry Laboratory

Biology
Complete one of the following options: 5-8
Option 1:

MICROBIO 303 Biology of Microorganisms
& MICROBIO 304 and Biology of Microorganisms Laboratory
GENETICS 466 Principles of Genetics

Option 2:
Complete two of the following:
BIOCORE 485 Principles of Physiology
BIOCORE 486 Principles of Physiology Laboratory
BIOCORE 587 Biological Interactions

Additional Physics
Complete one of the following: 4-5
PHYSICS 104 General Physics
PHYSICS 202 General Physics
PHYSICS 208 General Physics

Plant Physiology
BOTANY 500 Plant Physiology 3-4

Plant-Microbe Electives
Complete 5 credits from the following: 5

1 MATH 171 is a prerequisite for MATH 217.
2 MATH 221 Calculus and Analytic Geometry I/MATH 217 Calculus with Algebra and Trigonometry II is a prerequisite for MATH 222 Calculus and Analytic Geometry II

Plant Health and Industry Focus

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>GENETICS 466</td>
<td>Principles of Genetics</td>
<td>3</td>
</tr>
</tbody>
</table>

Core

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PL PATH 559</td>
<td>Diseases of Economic Plants</td>
<td>3-4</td>
</tr>
</tbody>
</table>

Plant Health and Industry Electives
Complete 24 credits from at least two different subject listings from the following: 24

AGRONOMY 100 Principles and Practices in Crop Production
AGRONOMY 300 Cropping Systems
AGRONOMY 302 Forage Management and Utilization
BOTANY/ ENVIR ST/ ZOOLOGY 260 Introductory Ecology
BOTANY 300 Plant Anatomy
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOTANY/F &amp; W ECOL/ZOOLOGY 460</td>
<td>General Ecology</td>
</tr>
<tr>
<td>BOTANY 500</td>
<td>Plant Physiology</td>
</tr>
<tr>
<td>BIOCHEM 501</td>
<td>Introduction to Biochemistry</td>
</tr>
<tr>
<td>C&amp;E SOC/SOC 140</td>
<td>Introduction to Community and Environmental Sociology</td>
</tr>
<tr>
<td>C&amp;E SOC/SOC 222</td>
<td>Food, Culture, and Society</td>
</tr>
<tr>
<td>C&amp;E SOC/AMER IND/SOC 578</td>
<td>Poverty and Place</td>
</tr>
<tr>
<td>C&amp;E SOC/SOC 650</td>
<td>Sociology of Agriculture</td>
</tr>
<tr>
<td>ENTOM/ENVIR ST 201</td>
<td>Insects and Human Culture—a Survey Course in Entomology</td>
</tr>
<tr>
<td>ENTOM/ZOOLOGY 302</td>
<td>Introduction to Entomology</td>
</tr>
<tr>
<td>F&amp;W ECOL/ENVIR ST 100</td>
<td>Forests of the World</td>
</tr>
<tr>
<td>F&amp;W ECOL/ZOOLOGY 335</td>
<td>Human/Animal Relationships: Biological and Philosophical Issues</td>
</tr>
<tr>
<td>F&amp;W ECOL/ENVIR ST/ZOOLOGY 360</td>
<td>Extinction of Species</td>
</tr>
<tr>
<td>F&amp;W ECOL/BOTANY 455</td>
<td>The Vegetation of Wisconsin</td>
</tr>
<tr>
<td>F&amp;W ECOL/BOTANY/ZOOLOGY 460</td>
<td>General Ecology</td>
</tr>
<tr>
<td>F&amp;W ECOL 550</td>
<td>Forest Ecology</td>
</tr>
<tr>
<td>HORT 120</td>
<td>Survey of Horticulture</td>
</tr>
<tr>
<td>HORT/PL PATH 261</td>
<td>Sustainable Turfgrass Use and Management</td>
</tr>
<tr>
<td>HORT/LAND ARC 263</td>
<td>Landscape Plants I</td>
</tr>
<tr>
<td>HORT 320</td>
<td>Environment of Horticultural Plants</td>
</tr>
<tr>
<td>HORT 345</td>
<td>Fruit Crop Production</td>
</tr>
<tr>
<td>MICROBIO 101</td>
<td>General Microbiology</td>
</tr>
<tr>
<td>MICROBIO 102</td>
<td>General Microbiology Laboratory</td>
</tr>
<tr>
<td>MICROBIO 303</td>
<td>Biology of Microorganisms</td>
</tr>
<tr>
<td>MICROBIO 304</td>
<td>Biology of Microorganisms Laboratory</td>
</tr>
<tr>
<td>NUTR SCI 132</td>
<td>Nutrition Today</td>
</tr>
<tr>
<td>NUTR SCI/AN SCI/DY SCI 311</td>
<td>Comparative Animal Nutrition</td>
</tr>
<tr>
<td>NUTR SCI 332</td>
<td>Human Nutritional Needs</td>
</tr>
<tr>
<td>NUTR SCI/A A E/AGRONOMY 350</td>
<td>World Hunger and Malnutrition</td>
</tr>
<tr>
<td>NUTR SCI/BIOCHEM 510</td>
<td>Nutritional Biochemistry and Metabolism</td>
</tr>
<tr>
<td>NUTR SCI 540</td>
<td>Community Nutrition and Health Equity</td>
</tr>
<tr>
<td>SOIL SCI/ATM OCN 132</td>
<td>Earth’s Water: Natural Science and Human Use</td>
</tr>
<tr>
<td>SOIL SCI/ENVIR ST/GEOG 230</td>
<td>Soil: Ecosystem and Resource</td>
</tr>
<tr>
<td>SOIL SCI 301</td>
<td>General Soil Science</td>
</tr>
<tr>
<td>SOIL SCI/ENVIR ST 324</td>
<td>Soils and Environmental Quality</td>
</tr>
<tr>
<td>SOIL SCI/AGRONOMY/HORT 326</td>
<td>Plant Nutrition Management</td>
</tr>
</tbody>
</table>

### Business

Complete 6 credits from the following: 6

- ACCT IS 100 Introductory Financial Accounting
- ACCT IS 211 Introductory Managerial Accounting
- ACCT IS 300 Accounting Principles
- ACCT IS 301 Financial Reporting I
- ACCT IS 302 Financial Reporting II
- ACCT IS 329 Taxation: Concepts for Business and Personal Planning
- A A E 320 Agricultural Systems Management
- A A E 101 Introduction to Agricultural and Applied Economics
- A A E 322 Commodity Markets
- A A E 323 Cooperatives and Alternative Forms of Enterprise Ownership
- A A E 419 Agricultural Finance
- A A E/ECON 421 Economic Decision Analysis
- A A E/ECON 474 Economic Problems of Developing Areas
- ECON 101 Principles of Microeconomics
- ECON 102 Principles of Macroeconomics
- LSC 270 Marketing Communication for the Sciences
- M HR 300 Managing Organizations
- M HR 305 Human Resource Management

**Total Credits**  
36-37

## 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.