PLANT PATHOLOGY, B.S.

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 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 B.S. DEGREE PROGRAMS

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</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>
<td></td>
</tr>
<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>
<tr>
<td></td>
<td>First Year Seminar (<a href="http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#requirementstext">http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#requirementstext</a>)</td>
<td>1</td>
</tr>
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</table>

International Studies (http://guide.wisc.edu/undergraduate/agricultural-life-sciences/#requirementstext) 3

Physical Science Fundamentals

<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>4-5</td>
</tr>
<tr>
<td>CHEM 108</td>
<td>Chemistry in Our World</td>
<td></td>
</tr>
<tr>
<td>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/#requirementstext)

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 elsewhere.

**Core Mathematics**

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

<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>5-6</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**

Select one of the following:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 103 &amp; CHEM 104</td>
<td>General Chemistry I and General Chemistry II</td>
<td>5-9</td>
</tr>
<tr>
<td>CHEM 109</td>
<td>Advanced General Chemistry</td>
<td></td>
</tr>
</tbody>
</table>

**Introductory Biology**

Select one of the following options:

Option 1 (preferred):

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

Option 2:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZOOLOGY/ BIOLOGY 101 &amp; ZOOLOGY/ BIOLOGY 102 &amp; BOTANY/ BIOLOGY 130</td>
<td>Animal Biology and 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
& BIOCORE 383 Genetics Laboratory
& BIOCORE 384 and Cellular Biology
and Cellular Biology Laboratory

Core Physics
Select one of the following: 4-5

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYSICS 103</td>
<td>General Physics</td>
<td></td>
</tr>
<tr>
<td>PHYSICS 201</td>
<td>General Physics</td>
<td></td>
</tr>
<tr>
<td>PHYSICS 207</td>
<td>General Physics</td>
<td></td>
</tr>
</tbody>
</table>

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

Capstone
PL PATH 590 Capstone in Plant Pathology 3

Track
Select one of the following: 29-39

- Plant-Microbe Biology Track
- Plant Health and Industry Track

Total Credits 67-83


TRACKS

PLANT–MICROBE BIOLOGY TRACK

Additional Mathematics and Statistics
Select one of the following: 5

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 211</td>
<td>Calculus</td>
<td></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>
</tbody>
</table>

Select one of the following: 3-4

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 222</td>
<td>Calculus and Analytic Geometry II</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 Chemistry
Select one of the following options: 4-8

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 343</td>
<td>Organic Chemistry I</td>
<td></td>
</tr>
<tr>
<td>&amp; CHEM 344</td>
<td>and Introductory Organic Chemistry Laboratory</td>
<td></td>
</tr>
<tr>
<td>CHEM 345</td>
<td>and Organic Chemistry II</td>
<td></td>
</tr>
<tr>
<td>CHEM 341</td>
<td>Elementary Organic Chemistry</td>
<td></td>
</tr>
<tr>
<td>&amp; CHEM 342</td>
<td>and Elementary Organic Chemistry Laboratory</td>
<td></td>
</tr>
</tbody>
</table>

Biology
Select one of the following options: 5-8

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MICROBIO 303</td>
<td>Biology of Microorganisms</td>
<td></td>
</tr>
<tr>
<td>&amp; MICROBIO 304</td>
<td>and Biology of Microorganisms Laboratory</td>
<td></td>
</tr>
<tr>
<td>GENETICS 466</td>
<td>Principles of Genetics</td>
<td></td>
</tr>
</tbody>
</table>

Option 1:

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOCORE 485</td>
<td>Principles of Physiology</td>
<td></td>
</tr>
<tr>
<td>BIOCORE 486</td>
<td>Principles of Physiology Laboratory</td>
<td></td>
</tr>
<tr>
<td>BIOCORE 587</td>
<td>Biological Interactions</td>
<td></td>
</tr>
</tbody>
</table>

Option 2:
Select two of the following:

- BIOCORE 485 Principles of Physiology
- BIOCORE 486 Principles of Physiology Laboratory
- BIOCORE 587 Biological Interactions

Additional Physics
Select one of the following: 4-5

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYSICS 104</td>
<td>General Physics</td>
<td></td>
</tr>
<tr>
<td>PHYSICS 202</td>
<td>General Physics</td>
<td></td>
</tr>
<tr>
<td>PHYSICS 208</td>
<td>General Physics</td>
<td></td>
</tr>
</tbody>
</table>

Plant Physiology
BOTANY 500 Plant Physiology 3-4

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

- BIOCHEM 501 Introduction to Biochemistry
- BOTANY 300 Plant Anatomy
- BOTANY 400 Plant Systematics
- or BOTANY 401 Vascular Flora of Wisconsin
- BOTANY/ F&W ECOL/ ZOOLOGY 460 General Ecology
- ENTOM/ ZOOLOGY 302 Introduction to Entomology

Any PL PATH course above 300

Total Credits 29-39

1 MATH 171 is a prerequisite for MATH 217.

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

PLANT HEALTH AND INDUSTRY TRACK

Biology
GENETICS 466 Principles of Genetics 3

Core
PL PATH 559 Diseases of Economic Plants 3-4
or BOTANY 500 Plant Physiology

Plant Health and Industry Electives
Select 24 credits from at least two different departments 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
Botany/F&W Ecol/Zoology 460 General Ecology
Botany 500 Plant Physiology
Biochem 501 Introduction to Biochemistry
C&E Soc/Soc 140 Introduction to Community and Environmental Sociology
C&E Soc/Soc 222 Food, Culture, and Society
C&E Soc/Hist Sci 230 Agriculture and Social Change in Western History
C&E Soc/Amer Ind/Soc 578 Poverty and Place
C&E Soc/Soc 650 Sociology of Agriculture
Entom/Envir St 302 Insects and Human Culture-a Survey Course in Entomology
Entom/Zoology 201 Introduction to Entomology
F&W Ecol/Envir St 100 Forests of the World
F&W Ecol/Zoology 335 Human/Animal Relationships: Biological and Philosophical Issues
F&W Ecol/Envir St/Zoology 360 Extinction of Species
F&W Ecol/Botany 455 The Vegetation of Wisconsin
F&W Ecol/Botany/Zoology 460 General Ecology
F&W Ecol 550 Forest Ecology
Hort 120 Survey of Horticulture
Hort/PL Path 261 Sustainable Turfgrass Use and Management
Hort/Land Arc 263 Landscape Plants I
Hort 320 Environment of Horticultural Plants
Hort 345 Fruit Crop Production
Microbio 101 General Microbiology
Microbio 102 General Microbiology Laboratory
Microbio 303 Biology of Microorganisms
Microbio 304 Biology of Microorganisms Laboratory
Nutr Sci 132 Nutrition Today
Nutr Sci 332 Human Nutritional Needs
Nutr Sci/A A E/Agronomy 350 World Hunger and Malnutrition
Nutr Sci/Biochem 510 Nutritional Biochemistry and Metabolism
Nutr Sci 540 Community Nutrition and Health Equity
Pl Path any course above 300 not already taken for another category
Soil Sci/Atm Ocn 132 Earth’s Water: Natural Science and Human Use
Soil Sci/Envir St/GeoG 230 Soil: Ecosystem and Resource
Soil Sci 301 General Soil Science
Soil Sci 322 Physical Principles of Soil and Water Management
Soil Sci/Envir St 324 Soils and Environmental Quality
Soil Sci 325 Soils and Landscapes
Soil Sci Agronomy Hort 326 Plant Nutrition Management
Business
Select 6 credits from the following: 6
Accounting I S 100 Introductory Financial Accounting
Accounting I S 211 Introductory Managerial Accounting
Accounting I S 300 Accounting Principles
Accounting I S 301 Financial Reporting I
Accounting I S 302 Financial Reporting II
Accounting I S/Law 329 Taxation: Concepts for Business and Personal Planning
A A E 215 Introduction to Agricultural and Applied Economics
A A E 320 Agricultural Systems Management
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. |