# PLANT PATHOLOGY, 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/plant-pathology/calsfirstyearseminarcourses/) | | 1 |
| international studies/ (http://guide.wisc.edu/undergraduate/agricultural-life-sciences/plant-pathology/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/plant-pathology/calscapstonerequirement/) | | |

## 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.

| Code | Title | Credits |
|---|---|---|
| **Core Mathematics** | | |
| 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 | |
| MATH 171 | Calculus with Algebra and Trigonometry I | |
| **Core Chemistry** | | |
| Complete one of the following: | | 5-9 |
| CHEM 103 & CHEM 104 | General Chemistry I and General Chemistry II | |
| CHEM 109 | Advanced General Chemistry | |
| **Introductory Biology** | | |
| Complete one of the following options: | | 10 |
| Option 1 (preferred): | | |
| BIOLOGY/BOTANY/ZOOLOGY 151 & BIOLOGY/BOTANY/ZOOLOGY 152 | Introductory Biology and Introductory Biology | |
| Option 2: | | |
| ZOOLOGY/BIOLOGY 101 & ZOOLOGY/BIOLOGY 102 & BOTANY/BIOLOGY 130 | Animal Biology and Animal Biology Laboratory and General Botany | |
| Option 3: | | |

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|---|---|---|
| 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 | |
| **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 credits—PL PATH 299 Independent Study, PL PATH 399 Coordinative Internship/Cooperative Education, PL PATH 590 Capstone in Plant Pathology, PL PATH 681 Senior Honors Thesis, PL PATH 682 Senior Honors Thesis, or PL PATH 699 Special Problems.

# FOCUS AREAS

## Plant–Microbe Biology Focus

| Code | Title | Credits |
|---|---|---|
| **Additional Mathematics and Statistics** | | |
| Complete one of the following: | | 5 |
| MATH 211 | Survey of Calculus | |
| MATH 217 | Calculus with Algebra and Trigonometry II [1] | |
| MATH 221 | Calculus and Analytic Geometry 1 | |
| Complete one of the following: | | 3-4 |
| MATH 222 | Calculus and Analytic Geometry 2 [2] | |
| STAT 301 | Introduction to Statistical Methods | |
| STAT 371 | Introductory Applied Statistics for the Life Sciences | |
| **Additional Chemistry** | | |
| Complete one of the following options: | | 4-8 |
| CHEM 343 & CHEM 344 & CHEM 345 | Organic Chemistry I and Introductory Organic Chemistry Laboratory and Organic Chemistry II | |
| CHEM 341 & CHEM 342 | Elementary Organic Chemistry and Elementary Organic Chemistry Laboratory | |
| **Biology** | | |
| Complete one of the following options: | | 5-8 |
| Option 1: | | |
| MICROBIO 303 & MICROBIO 304 | Biology of Microorganisms 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 |
| 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 numbered 300 and above | | |
| **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 Focus

| Code | Title | Credits |
|---|---|---|
| **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* | | |
| 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 | |

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| 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/ AMER IND/ SOC 578 | Poverty and Place |
| C&E SOC/ SOC 650 | Sociology of Agriculture |
| ENTOM/ ENVIR ST 201 | Insects and Human Culture-a Survey Course in Entomology |
| ENTOM/ ZOOLOGY 302 | 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/ AN SCI/ DY SCI 311 | Comparative Animal Nutrition |
| 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 |
| Any PL PATH course numbered 300 and above 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/ ENVIR ST 324 | Soils and Environmental Quality |
| SOIL SCI/ AGRONOMY/ HORT 326 | Plant Nutrition Management |
| **Business** | |
| Complete 6 credits from the following: | 6 |
| ACCT I S 100 | Introductory Financial Accounting |
| ACCT I S 211 | Introductory Managerial Accounting |
| ACCT I S 300 | Accounting Principles |
| ACCT I S 301 | Financial Reporting I |
| ACCT I S 302 | Financial Reporting II |
| ACCT I S 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 H R 300 | Managing Organizations |
| M H R 305 | Human Resource Management |
| **Total Credits** | **36-37** |

# UNIVERSITY DEGREE REQUIREMENTS

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|---|---|
| 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. |

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| 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. |