PLANT PATHOLOGY (PL PATH)

PL PATH 1 — COOPERATIVE EDUCATION/CO-OP IN PLANT PATHOLOGY
1 credit.

Full-time off-campus work experience which combines classroom theory with practical knowledge of operations to provide students with a background upon which to base a professional career. Students receive credit only for the term in which they are actively enrolled and working. The same work experience may not count towards credit in PL PATH 399.

Requisites: So st, and consent of supervising instructor and academic advisor.
Repeatable for Credit: Yes, unlimited number of completions

PL PATH/BOTANY 123 — PLANTS, PARASITES, AND PEOPLE
3 credits.

The course will explore the interaction between society and plant-associated microbes. Topics include: the Irish potato famine, pesticides in current agriculture, role of economics and consumer preference in crop disease management and the release of genetically engineered organisms.

Requisites: None
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No

PL PATH/HORT 261 — SUSTAINABLE TURFGRASS USE AND MANAGEMENT
2 credits.

Sustainable use and management of turfgrass landscapes in urban and suburban environments, including home lawns, golf courses, and sports fields. Focus is on creating sustainable and attractive turfgrass landscapes through proper species selection, use of slow-release or organic fertilizer practices, and minimizing the use of pesticides and supplemental irrigation.

Requisites: None
Repeatable for Credit: No
Last Taught: Fall 2017

PL PATH/HORT 262 — TURFGRASS MANAGEMENT LABORATORY
1 credit.

Hands-on turf establishment, cool- and warm-season grass, seed and weed identification, chemical application, and turf cultivation techniques and equipment use, plus field trips to major league sport facilities and golf courses.

Requisites: HORT/PL PATH 261 or concurrent enrollment
Repeatable for Credit: No
Last Taught: Fall 2017

PL PATH 289 — HONORS INDEPENDENT STUDY
1-2 credits.

Inter-Ag 288

Requisites: Enrolled in the CALS Honors Prgm Sophomore or Junior standing.
Course Designation: Honors - Honors Only Courses (H)
Repeatable for Credit: Yes, unlimited number of completions

PL PATH 299 — INDEPENDENT STUDY
1-3 credits.

Requisites: Open to Freshmen, Sophomore or Junior standing written consent of instructor
Repeatable for Credit: Yes, unlimited number of completions

PL PATH 300 — INTRODUCTION TO PLANT PATHOLOGY
4 credits.

Economic importance, symptoms, causes, and methods of control of representative plant diseases.

Requisites: Intro course in bot
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2017

PL PATH/F&W ECOL/HORT/LAND ARC 309 — DISEASES OF TREES AND SHRUBS
3 credits.

Fundamental disease concepts, pathogens and causal agents, diagnosis, and biologically rational principles and practices for management of diseases of trees and shrubs. For degree students and professionals. One extended lecture with discussion and one lab or field trip per week.

Requisites: One semester of plant sci or consent of instructor
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2017

PL PATH 311 — GLOBAL FOOD SECURITY
3 credits.

Isn't having enough food a basic human right? Exploration of the drivers of food insecurity: barriers to food production (pests, land availability, climate), barriers to food availability (politics, price, biofuels), and a greater need due to population growth. Examination of solutions to food insecurity.

Requisites: Sophomore standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: No
Last Taught: Fall 2017
PL PATH/SOIL SCI 323 — SOIL BIOLOGY
3 credits.

Nature, activities and role of organisms inhabiting soil. Effects of soil biota on ecosystem function, response to cultural practices, and impacts on environmental quality, including bioremediation of contaminated soils. 
Requisites: CHEM 104 and BOTANY/BIOLOGY 130 or equiv
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2017

PL PATH/BOTANY 332 — FUNGI
4 credits.

Growth, development, variability and dispersal of saprophytic, parasitic, and symbiotic fungi, with a consideration of their ecological and economic significance. 
Requisites: A 5 cr intro crse in botany
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No

PL PATH/AGRONOMY/ENTOM/HORT/SOIL SCI 354 — DIAGNOSING AND MONITORING PEST AND NUTRIENT STATUS OF FIELD CROPS
1 credit.

This course is designed to provide students with information necessary to diagnosis and monitor corn, soybean, alfalfa and wheat for pests (insects, weeds, diseases) and nutrient deficiency symptoms including perspectives from Agronomy, Entomology, Horticulture, Plant Pathology and Soil Science. Proper soil and pest sampling information will be provided as will proper crop staging techniques which are essential for pest and nutrient management. 
Requisites: None
Repeatable for Credit: No
Last Taught: Spring 2018

PL PATH/ENVIR ST/M&ENVTOX 368 — ENVIRONMENTAL LAW, TOXIC SUBSTANCES, AND CONSERVATION
2 credits.

Development of and need for “environmental law”; an introduction to the legal system; public and private rights in the environment; regulation of pesticides and toxic substances; environmental legislation and rulemaking; environmental impact statements; professionals as expert witnesses. No prior knowledge of law assumed. For scientists and others dealing with environmental issues in academia, industry and government. 
Requisites: So st
Course Designation: Breadth - Social Science
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No

PL PATH 375 — SPECIAL TOPICS
1-4 credits.

Subjects of current interest to undergrads. 
Requisites: None
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2018

PL PATH 399 — COORDINATIVE INTERNSHIP/COOPERATIVE EDUCATION
1-8 credits.

Provides an area equivalency for courses taken on Madison Study Abroad Programs that do not equate to existing UW courses. Enroll Info: Current enrollment in a UW-Madison study abroad program
Requisites: None
Repeatable for Credit: Yes, unlimited number of completions

PL PATH/BOTANY/ENTOM 505 — PLANT-MICROBE INTERACTIONS: MOLECULAR AND ECOLOGICAL ASPECTS
3 credits.

Molecular and ecological aspects of the interactions between plants and microorganisms. This course explores many of the themes, from genetic to integrative, of modern biology, and illustrates how study of plant-microbe interactions contributes to understanding of fundamental plant science. g. Bact 303); biochem (e.g. BIOCHEM 501); genetics (e.g. GENETICS 466) or cons inst
Requisites: An upper level crse in microbiol (e.
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
PL PATH 517 — PLANT DISEASE RESISTANCE  
2-3 credits.

Host resistance in plant disease control. Conceptual and applied aspects of resistance: how it works, why it sometimes fails, and the traditional and modern techniques used for evaluating host resistance and incorporating resistance factors into new plant varieties.  
Requisites: Previous coursework in plant pathology, genetics and/or plant breeding, or consent of instructor  
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req  
Level - Intermediate  
L&S Credit - Counts as Liberal Arts and Science credit in L&S  
Grad 50% - Counts toward 50% graduate coursework requirement  
Repeatable for Credit: No  
Last Taught: Fall 2016

PL PATH 558 — BIOLOGY OF PLANT PATHOGENS  
3 credits.

Explores biology of plant pathogenic fungi, oomycetes, nematodes, bacteria, and viruses, with emphasis on identifying: 1) key traits of each pathogen class, and 2) common strategies used by these microbes. Inquiry-driven laboratory will investigate diverse interactions between plants and their pathogens.  
Requisites: Pl Path 300 or equiv or cons inst  
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req  
Level - Advanced  
L&S Credit - Counts as Liberal Arts and Science credit in L&S  
Grad 50% - Counts toward 50% graduate coursework requirement  
Repeatable for Credit: No  
Last Taught: Spring 2015

PL PATH 559 — DISEASES OF ECONOMIC PLANTS  
3 credits.

Symptoms, epidemiology and control of diseases of crop plants; emphasis on disease diagnosis. Plant disease clinic, field trips, lectures and lab.  
Requisites: Plant Path 300 332  
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement  
Repeatable for Credit: No  
Last Taught: Summer 2017

PL PATH 590 — CAPSTONE IN PLANT PATHOLOGY  
1-4 credits.

Synthesizing research-based capstone experience for students majoring in Plant Pathology. Students will develop problem-solving skills, be exposed to multidisciplinary approaches, develop teamwork and interpersonal skills, develop information resources, consider societal, economic, ethical, scientific and professional aspects of the field, and prepare and present written and/or oral reports.  
Requisites: Consent of instructor  
Course Designation: Level - Advanced  
L&S Credit - Counts as Liberal Arts and Science credit in L&S  
Repeatable for Credit: Yes, unlimited number of completions

PL PATH 602 — ECOLOGY, EPIDEMIOLOGY AND CONTROL OF PLANT DISEASES  
3 credits.

Environmental factors in the development and spread of diseases, pathogen variability, genetics of disease resistance, and principles of disease control.  
Requisites: Knowledge equiv to that obtained in Pl Path 300, BOTANY/PL PATH 332, STAT/F&W ECOL/HORT 571, Math 212, Pl Path 616 or cons inst  
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement  
Repeatable for Credit: No  
Last Taught: Fall 2016

PL PATH/ENTOM/F&W ECOL/M&ENVTOX/SOIL SCI 606 — COLLOQUIUM IN ENVIRONMENTAL TOXICOLOGY  
1 credit.

Current topics in molecular and environmental toxicology and problems related to biologically active substances in the environment. Topics vary each semester. Lectures are by resident and visiting professors and other researchers.  
Requisites: Biology/ZOOLOGY/BIOLOGY 101, Biology/BOTANY/BIOLOGY 130, or equivalent  
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req  
Level - Intermediate  
L&S Credit - Counts as Liberal Arts and Science credit in L&S  
Grad 50% - Counts toward 50% graduate coursework requirement  
Repeatable for Credit: Yes, unlimited number of completions  
Last Taught: Spring 2016

PL PATH/MICROBIO 622 — PLANT-BACTERIAL INTERACTIONS  
2-3 credits.

Physiology, genetics, taxonomy, and ecology of bacterial pathogens, epiphytes, and symbionts of plants.  
Requisites: A course in advanced bacteriology; GENETICS 466 or equiv; BIOCHEM 501 or equiv; or cons inst  
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req  
Level - Advanced  
L&S Credit - Counts as Liberal Arts and Science credit in L&S  
Grad 50% - Counts toward 50% graduate coursework requirement  
Repeatable for Credit: No  
Last Taught: Fall 2017

PL PATH/MICROBIO/ONCOLOGY 640 — GENERAL VIROLOGY-MULTIPLICATION OF VIRUSES  
3 credits.

Bacterial and animal viruses, their structure, multiplication, and genetics.  
Requisites: Introcrs in bact, biochem genetics  
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req  
L&S Credit - Counts as Liberal Arts and Science credit in L&S  
Grad 50% - Counts toward 50% graduate coursework requirement  
Repeatable for Credit: No  
Last Taught: Fall 2017
Fungal genetics, genomics, and physiology using plant pathogenic fungi and the genetic models Aspergillus nidulans and Neurospora crassa as model systems to explore the current knowledge of fungal genetics and plant/fungal interactions. Enrollment open to graduate students, but undergraduates welcome to contact instructor for permission. All students should have some prior coursework in genetics (such as GENETICS 466 or 467) and microbiology (such as MICROBIO 303). It is also recommended that students take PL PATH 300 332 prior to this course.

Requisites: Graduate or professional standing
Course Designation: Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No

PL PATH 681 — SENIOR HONORS THESIS
2-4 credits.

Requisites: Honors candidacy
Course Designation: Honors - Honors Only Courses (H)
Repeatable for Credit: No
Last Taught: Fall 2017

PL PATH 682 — SENIOR HONORS THESIS
2-4 credits.

Continuation of 681.
Requisites: Honors program candidacy Pl Path 681
Course Designation: Honors - Honors Only Courses (H)
Repeatable for Credit: No

PL PATH 699 — SPECIAL PROBLEMS
1-5 credits.

Requisites: Sr st cons inst
Course Designation: Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: Yes, unlimited number of completions

PL PATH 799 — PRACTICUM IN PLANT PATHOLOGY TEACHING
1-3 credits.

Instructional orientation to teaching at the higher education level in the agricultural and life sciences, direct teaching experience under faculty supervision, experience in testing and evaluation of students, and the analysis of teaching performance.
Requisites: Consent of instructor
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No

PL PATH 800 — INQUIRY-BASED BIOLOGY TEACHING
1-2 credits.

The goal is for students to develop competence and confidence as teachers. The course covers fundamentals of learning theory and practical strategies for teaching biology. Students practice lecturing, manage classroom dynamics, and teach laboratory sections (optional).
Requisites: Graduate or professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No

PL PATH 801 — TEACHING BIOLOGY: SPECIAL TOPICS
1 credit.

Students will learn about mentoring and/or instructional materials. Students have two options: (a) practice mentoring undergraduate researchers with feedback and evaluation and/or (b) develop and evaluate instructional materials. This course builds on content from Plant Pathology 800.
Requisites: Pl Path 800 or con reg
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2017

PL PATH 875 — SPECIAL TOPICS
1-4 credits.

Topics of current interest to Grad students.
Requisites: Graduate or professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2018

PL PATH 923 — SEMINAR
1 credit.

Requisites: Graduate or professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions

PL PATH/BOTANY 930 — SEMINAR-MYCOLOGY
1 credit.

Requisites: Graduate or professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions

PL PATH 990 — RESEARCH
1-9 credits.

Requisites: Consent of instructor
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions