**PLANT PATHOLOGY (PL PATH)**

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. Enroll Info: None

**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

**Last Taught:** Spring 2020

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. Enroll Info: None

**Requisites:** None

**Repeatable for Credit:** No

**Last Taught:** Fall 2019

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. Enroll Info: None

**Requisites:** PL PATH/HORT 261 or concurrent enrollment

**Repeatable for Credit:** No

**Last Taught:** Fall 2018

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

Enroll Info: Enrolled in the CALS Honors Prgm Sophomore or Junior standing. INTER-AG 288

**Requisites:** Consent of instructor

**Course Designation:** Honors - Honors Only Courses (H)

**Repeatable for Credit:** Yes, unlimited number of completions

**Last Taught:** Spring 2000

PL PATH 299 — INDEPENDENT STUDY 1-3 credits.

Enroll Info: Open to Freshmen, Sophomore or Junior standing written consent of instructor

**Requisites:** Consent of instructor

**Repeatable for Credit:** Yes, unlimited number of completions

**Last Taught:** Spring 2020

PL PATH 300 — INTRODUCTION TO PLANT PATHOLOGY 4 credits.

Economic importance, symptoms, causes, and methods of control of representative plant diseases. Enroll Info: Intro course in bot

**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

Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** No

**Last Taught:** Spring 2020

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. Enroll Info: Includes field trips

**Requisites:** (ZOOLOGY/BIOLOGY/BOTANY 152, BOTANY/BIOLOGY 130, or BIOCORE 381) or graduate/professional 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

Grad 50% - Counts toward 50% graduate coursework requirement

**Repeatable for Credit:** No

**Last Taught:** Fall 2019

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. Enroll Info: Sophomore standing

**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:** No

**Last Taught:** Fall 2019
PL PATH 315 — PLANT MICROBIOMES
4 credits.
Explore plant associated microbial communities (the plant microbiome), methods used to study them, and how we can use them to improve plant and ecosystem health in the face of challenges to agricultural and natural systems. Examples will be drawn from annual crop, grassland, and forested ecosystems. In the laboratory section, we will use current molecular, bioinformatic, and statistical approaches to characterize rhizosphere microbiomes from samples collected as part of on-going research projects. Enroll Info: None
Requisites: Graduate/professional standing or (ZOOLOGY/BIOLOGY/BOTANY 151, ZOOLOGY/BIOLOGY 101 and 102, BOTANY/BIOLOGY 130, or BIOCORE 381) and STAT 301 or 371
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: Spring 2020

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. Enroll Info: None
Requisites: (ZOOLOGY/BIOLOGY/BOTANY 151, or ZOOLOGY/BIOLOGY 101 and 102, or BOTANY/BIOLOGY 130, or BIOCORE 384) and (CHEM 104, 109, or 116), or graduate/professional 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
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2019

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. Enroll Info: A 5 cr intro crse in botany
Requisites: Sophomore standing; not open to special students
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: Spring 2020

PL PATH/BOTANY 333 — BIOLOGY OF THE FUNGI
2 credits.
Growth, development, variability and dispersal of saprophytic, parasitic, and symbiotic fungi, with a consideration of their biological, ecological and economic significance. Enroll Info: None
Requisites: BOTANY/BIOLOGY 130, ZOOLOGY/BIOLOGY/BOTANY 151 and ZOOLOGY/BIOLOGY/BOTANY 152 or BIOCORE 381 AND 382 or graduate/professional standing. Not open to students with credit for BOTANY/PL PATH 332
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: Spring 2020

PL PATH/AGRONOMY/ENTOM/HORT/SOIL SCI 354 — DIAGNOSING AND MONITORING PEST AND NUTRIENT STATUS OF FIELD CROPS
1 credit.
Provides 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 cropstaging techniques which are essential for pest and nutrient management. Enroll Info: None
Requisites: None
Repeatable for Credit: No
Last Taught: Spring 2019

PL PATH/ENVIR ST 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. Enroll Info: So st
Requisites: None
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
Last Taught: Spring 2013

PL PATH 375 — SPECIAL TOPICS
1-4 credits.
Subjects of current interest to undergrads. Enroll Info: None
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 2020
PL PATH 399 — COORDINATIVE INTERNSHIP/COOPERATIVE EDUCATION

1-8 credits.

Enroll Info: So, Jr or Sr st and cons supervising inst, advisor, and internship program coordinator
Requisites: Consent of instructor
Course Designation: Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S Workplace - Workplace Experience Course
Repeatable for Credit: Yes, for 8 number of completions
Last Taught: Spring 2020

PL PATH 400 — STUDY ABROAD IN PLANT PATHOLOGY

1-6 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. Enroll Info: An upper level crse in microbiol (e.g. Bact 303); biochem (e.g. BIOCHEM 501); genetics (e.g. GENETICS 466) or cons inst
Requisites: None
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 2020

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. Enroll Info: Previous coursework in plant pathology, genetics and/or plant breeding, or consent of instructor
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 Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2018

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. Enroll Info: PL PATH 300 or equiv or cons inst
Requisites: None
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. Enroll Info: Plant Path 300 332
Requisites: None
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Summer 2019

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. Enroll Info: None
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
Last Taught: Fall 2019

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. Enroll Info: Knowledge equiv to that obtained in PL PATH 300, BOTANY/PL PATH 332, STAT/F&W ECOL/HORT 571, Math 212, PI Path 616 or cons inst
Requisites: None
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2018
PL PATH/ENTOM/F&W ECOL/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. Enroll Info: None
Requisites: ZOOLOGY/BIOLOGY 101 or BOTANY/BIOLOGY 130 or ZOOLOGY/BIOLOGY/BOTANY 151, or graduate/professional 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
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2016

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

Physiology, genetics, taxonomy, and ecology of bacterial pathogens, epiphytes, and symbionts of plants. Enroll Info: A course in advanced bacteriology; GENETICS 466 or equiv; BIOCHEM 501 or equiv; or cons inst
Requisites: None
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 2019

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

Bacterial and animal viruses, their structure, multiplication, and genetics. Enroll Info: Intro crs in bact, biochem genetics
Requisites: None
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 2019

PL PATH/BOTANY/GENETICS/M M & I 655 — BIOLOGY AND GENETICS OF FUNGI
3 credits.

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. Enroll Info: Graduate or professional standing
Requisites: None
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
Last Taught: Fall 2018

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

Enroll Info: Honors candidacy
Requisites: Consent of instructor
Course Designation: Honors - Honors Only Courses (H)
Repeatable for Credit: No
Last Taught: Fall 2018

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

Continuation of 681. Enroll Info: Honors program candidacy PL PATH 681
Requisites: Consent of instructor
Course Designation: Honors - Honors Only Courses (H)
Repeatable for Credit: No
Last Taught: Spring 2019

PL PATH 699 — SPECIAL PROBLEMS
1-5 credits.

Enroll Info: Sr st cons inst
Requisites: Consent of instructor
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: Yes, unlimited number of completions
Last Taught: Spring 2020

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. Enroll Info: None
Requisites: Consent of instructor
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2020
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).  
Enroll Info: None  
Requisites: Graduate/professional standing  
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement  
Repeatable for Credit: No  
Last Taught: Fall 2016

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. Enroll Info: PL PATH 800 or con reg  
Requisites: Graduate/professional standing  
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. Enroll Info: None  
Requisites: Graduate/professional standing  
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement  
Repeatable for Credit: Yes, unlimited number of completions  
Last Taught: Spring 2020

PL PATH 923 — SEMINAR  
1 credit.

Enroll Info: None  
Requisites: Graduate/professional standing  
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement  
Repeatable for Credit: Yes, unlimited number of completions  
Last Taught: Spring 2020

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

Enroll Info: None  
Requisites: Graduate/professional standing  
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement  
Repeatable for Credit: Yes, unlimited number of completions  
Last Taught: Spring 2020

PL PATH 990 — RESEARCH  
1-9 credits.

Enroll Info: None  
Requisites: Consent of instructor  
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement  
Repeatable for Credit: Yes, unlimited number of completions  
Last Taught: Spring 2020