

# PLANT PATHOLOGY (PLPT)

## PLPT 110 Fantastic Fungi - The Fatal and the Friendly

**Description:** A survey of the impact of fungi on human history and welfare. Topics include: fungi as agents of plant and human diseases; fungal toxins that impact food safety and indoor air quality; decay and decomposition; fungi as food and fermenters; medicinal fungi and metabolites; and mycorrhizae, mutualism and biodiversity.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded with Option

## PLPT 210 Plant Pathogens and Disease

**Prerequisites:** PLAS 131, BIOS 101, ENTO 115, or LIFE 120.

**Description:** Introduction to fungi, bacteria, nematodes and viruses that cause plant diseases. The impact that plant diseases can have on society and the environment. Strategies used in managing plant diseases in agricultural and landscape environments.

**Credit Hours:** 2

**Max credits per semester:** 2

**Max credits per degree:** 2

**Grading Option:** Graded with Option

## PLPT 270 Biological Invaders

**Crosslisted with:** PLAS 270, NRES 270

**Prerequisites:** 3 hrs biological sciences.

**Description:** Impact of exotic species and invasive organisms: agricultural and medical emerging disease; predicting biological invasions; biological control; regulatory, monitoring, and control efforts; ecological impact.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded with Option

## PLPT 400 Intermediate Plant Pathology

**Crosslisted with:** PLPT 800

**Prerequisites:** PLPT 210 or BIOS 312; concurrent enrollment in PLPT 400L

**Description:** Exploring the biology of plant pathogens, pathogen-host plant interactions, and environmental influences on plant diseases. Examining cultural, chemical, and biological strategies, along with host resistance, for plant disease management. Builds on topics covered in PLPT 210, with additional emphasis on the strategies employed by the four major groups of plant pathogens, plant responses to disease-causing organisms, and approaches to disease management.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded with Option

**Offered:** SPRING

**Prerequisite for:** PLPT 801, AGRO 801, HORT 801

## PLPT 400L Intermediate Plant Pathology Lab

**Crosslisted with:** PLPT 800L

**Prerequisites:** Concurrent enrollment in PLPT 400/800

**Notes:** BIOS 314 recommended. At present, PLPT 400/800 may be taken without PLPT 400L/800L.

**Description:** Companion lab for PLPT 400/800

**Credit Hours:** 1

**Max credits per semester:** 1

**Max credits per degree:** 1

**Grading Option:** Graded with Option

**Offered:** SPRING

**Course and Laboratory Fee:** \$60

## PLPT 412 Bacterial Lifestyles

**Crosslisted with:** PLPT 812

**Prerequisites:** BIOS 312 or BIOS 201 or PLAS 215

**Description:** Covers principles of bacteriology focusing on the strategies bacteria use to thrive and survive in many different environments including non-living surfaces, and other living organisms.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

**Offered:** SPRING

## PLPT 414 Turfgrass Disease Management

**Crosslisted with:** AGRO 814, HORT 814, PLPT 814, PLAS 414, TLMT 814

**Prerequisites:** BIOS/PLPT 369 or one semester of introductory plant pathology.

**Description:** Pathogens, epidemiology, and control of diseases specific to turfgrass.

**Credit Hours:** 1

**Max credits per semester:** 1

**Max credits per degree:** 1

**Grading Option:** Graded with Option

## PLPT 415 Corn Diseases

**Crosslisted with:** PLPT 815

**Prerequisites:** PLPT 210 or PLPT 400 or equivalent

**Notes:** Taught online only. This is an 8-week mini-course.

**Description:** Introduction to the important diseases affecting corn (maize) in Nebraska and other areas of the United States. Pathogen biology, favorable conditions, disease diagnosis based on symptomatology and management strategies are emphasized

**Credit Hours:** 1

**Max credits per semester:** 1

**Max credits per degree:** 1

**Grading Option:** Graded

## PLPT 418 Microbial Genetics & Genomics

**Crosslisted with:** PLPT 818, MBIO 418

**Prerequisites:** BIOS 201 or PLAS 215.

**Notes:** BIOS 312 is recommended.

**Description:** Inheritance, exchange, and regulation of genes in prokaryotic microorganisms: gene structure and function; gene transfer and the elements (plasmids, phages, and transposons) involved; DNA mutations, repair, and genetic analysis; genome sequencing, microbial genome databases, and global gene expression analysis.

**Credit Hours:** 3

**Max credits per semester:** 3

**Max credits per degree:** 3

**Grading Option:** Graded

**Prerequisite for:** PLPT 801, AGRO 801, HORT 801

**ACE:** ACE 10 Integrated Product

**PLPT 495 Internship in Plant Pathology**

**Prerequisites:** Junior standing.

**Description:** Experience in a work place setting that is directly related to Plant Pathology.

**Credit Hours:** 1-3

**Min credits per semester:** 1

**Max credits per semester:** 3

**Max credits per degree:** 5

**Grading Option:** Pass No Pass

**PLPT 496 Independent Study**

**Prerequisites:** Advanced approval of the plan of study and permission.

**Description:** Research, literature review, extension of course work, or preparation of teaching materials.

**Credit Hours:** 1-5

**Min credits per semester:** 1

**Max credits per semester:** 5

**Max credits per degree:** 5

**Grading Option:** Graded with Option

**PLPT 498 Independent Research**

**Prerequisites:** Permission.

**Description:** Independent research in areas of plant pathology.

**Credit Hours:** 1-3

**Min credits per semester:** 1

**Max credits per semester:** 3

**Max credits per degree:** 6

**Grading Option:** Graded with Option

**PLPT 499H Honors Thesis**

**Prerequisites:** Admission to the University Honors Program and permission

**Notes:** AGRI 299H recommended

**Description:** Conduct a scholarly research project and write a University Honors Program or undergraduate thesis.

**Credit Hours:** 3-6

**Min credits per semester:** 3

**Max credits per semester:** 6

**Max credits per degree:** 6

**Grading Option:** Graded