

PLANT PATHOLOGY

ALS 5932 Special Topics 1-4 Credits, Max 6 Credits

Grading Scheme: Letter Grade

Special Topics

ALS 6925 Integrated Plant Medicine 4 Credits

Grading Scheme: Letter Grade

Review and synthesis of the principles of plant-problem prevention, diagnosis, and management.

Prerequisite: all core courses for DPM degree.

ALS 6931 Plant Medicine Program Seminar 1 Credit, Max 3 Credits

Grading Scheme: S/U

On-going seminar series involving presentations on plant-health management.

Prerequisite: DPM student or consent of instructor.

PLP 5005C General Plant Pathology 4 Credits

Grading Scheme: Letter Grade

Microorganisms and environmental factors that cause disease in plants. Symptoms and losses caused by plant diseases. Principles of plant disease development, diagnosis, and control. Genetics and epidemiology of plant diseases. Offered fall semester.

Prerequisite: Course in biology or botany.

PLP 5115C Citrus Pathology 3 Credits

Grading Scheme: Letter Grade

Symptoms, disease cycles, and control measures for major citrus diseases; emphasis on diagnosis using biological, chemical, and biochemical techniques. Offered at CREC, Lake Alfred, fall semester in even-numbered years.

Prerequisite: PLP 3002C/PLP 5005C.

PLP 6105 Applied Plant Disease Management 3 Credits

Grading Scheme: Letter Grade

Summarizes the methods and strategies used to manage plant disease by targeting vulnerable points in the pathogen life cycle and disease epidemic. Students utilize knowledge of organismal biology, epidemiology, management chemistry, and economics to develop strategies for managing plant diseases.

PLP 6223C Viral Pathogens of Plants 3 Credits

Grading Scheme: Letter Grade

Principles of plant virology; symptomatology, transmission, insect vector relationships, properties of viruses, purification, electron microscopy, morphology, serology, and control of viral diseases.

Prerequisite: PLP 3002C/PLP 5005C, BCH 5045, and a course in plant pathology, which may be taken as a corequisite.

PLP 6241C Bacterial Plant Pathogens 3 Credits

Grading Scheme: Letter Grade

Relationships of bacterial plant pathogens and interactions with their hosts. Offered spring semester in even-numbered years.

Prerequisite: PLP 3002C/PLP 5005C, MCB 3020.

PLP 6262C Fungal Plant Pathogens 3 Credits

Grading Scheme: Letter Grade

History, ecology, genetics, physiology, taxonomy, and management of plant pathogenic fungi.

Prerequisite: PLP 3002C/PLP 5005C or PLP 6656C.

PLP 6291 Plant Disease Diagnosis 3 Credits

Grading Scheme: Letter Grade

Methods used in diagnosing plant diseases caused by fungi, bacteria, viruses, and abiotic conditions. Offered fall semester.

Prerequisite: PLP 3002C/PLP 5005C, PLP 6262C.

PLP 6303 Host-Parasite Interactions II 3 Credits

Grading Scheme: Letter Grade

Genetic and molecular interactions of hosts and parasites with emphasis on plant disease resistance. Offered spring semester of even-numbered years.

Prerequisite: PLP 6502.

PLP 6404 Epidemiology of Plant Disease 4 Credits

Grading Scheme: Letter Grade

Principles of ecology of plant diseases with emphasis on the effects of the climatic environment on the development of disease in populations of plants and the implications with regard to the strategy of disease control. Offered spring semester in odd-numbered years.

Prerequisite: PLP 3002C/PLP 5005C.

PLP 6502 Host-Parasite Interactions I 3 Credits

Grading Scheme: Letter Grade

Genetics and molecular biology of host-parasite interactions with emphasis on mechanisms of pathogenesis. Offered fall semester in odd-numbered years.

Prerequisite: PLP 3002C/PLP 5005C and one course each in biochemistry and genetics.

PLP 6621C Applied Population Genetics of Microbes 3 Credits

Grading Scheme: Letter Grade

Students will learn to use DNA sequence or marker data to describe population genetic variation and infer evolutionary processes, with emphasis on plant pathogen populations. Topics to be covered include: sampling strategies, marker types, genealogical inference, defining population and geographic structure, and coalescent-based methods for inferring demographic processes.

Prerequisite: PLP 5005C, or SWS 5305C, or PCB 4674 or equivalent, or PCB 3063 or equivalent, or consent of instructor.

PLP 6636 Frontiers in Plant Biotechnology 3 Credits

Grading Scheme: Letter Grade

Focuses on presenting advanced genetic tools that recently have become available for use in the biotechnology field to make new products in plants, improve existing plant characteristics or generate plants with resistance or tolerance to certain pathogens.

Prerequisite: Graduate standing and general knowledge of Genetics, Organic Chemistry and Biochemistry

PLP 6656C Fungal Biology 4 Credits

Grading Scheme: Letter Grade

Introducing groups of fungi and fungi-like organisms. Discussion of the structure, development, physiology, genetics, ecology and systematics of fungi.

Prerequisite: BSC 2010 and BSC 2011 or PLP 3002C/PLP 5005C.

PLP 6701 Impact through Networks 2 Credits

Grading Scheme: Letter Grade

Focuses on networks and the impact of system changes in agriculture, natural ecosystems, and health care, with an introduction to network science in the R programming environment, and review of applications in biological and social sciences. Students develop projects that apply network analysis to their own study systems.

PLP 6905 Problems in Plant Pathology 1-4 Credits, Max 6 Credits

Grading Scheme: Letter Grade

Study of any field of plant pathology including diseases of all major crop groups.

PLP 6910 Supervised Research 1-5 Credits, Max 5 Credits

Grading Scheme: S/U

Supervised Research

PLP 6921 Colloquium in Principles of Plant Pathology 1 Credit, Max 4 Credits

Grading Scheme: Letter Grade

Colloquium in Principles of Plant Pathology

PLP 6932 Seminar in Plant Pathology 1 Credit, Max 4 Credits

Grading Scheme: S/U

Discussion of the literature, techniques, and research pertaining to plant pathology.

PLP 6940 Supervised Teaching 1-5 Credits, Max 5 Credits

Grading Scheme: S/U

Supervised Teaching

PLP 6942 Professional Internship in Plant Disease Clinic 3 Credits

Grading Scheme: S/U

Practical training, under supervision of faculty member, in diagnosing plant diseases and formulating recommendations for their management or control.

Prerequisite: PLP 6262C and PLP 6291.

PLP 6971 Research for Master's Thesis 1-15 Credits

Grading Scheme: S/U

Research for Master's Thesis

PLP 7946 Plant Pathology Internship 1-10 Credits, Max 10 Credits

Grading Scheme: S/U

Off-campus internship.

PLP 7979 Advanced Research 1-12 Credits

Grading Scheme: S/U

Research for doctoral students before admission to candidacy. Designed for students with a master's degree in the field of study or for students who have been accepted for a doctoral program. Not appropriate for students who have been admitted to candidacy.

PLP 7980 Research for Doctoral Dissertation 1-15 Credits

Grading Scheme: S/U

Research for Doctoral Dissertation