**PLANT PATHOLOGY**

Department of Plant, Soil and Microbial Sciences
College of Agriculture and Natural Resources

101  Current Issues and Frontiers in Plant Pathology
Fall. 1(1-0)
Basic principles of plant disease and plant pathogens. Current topics and future opportunities in the discipline of plant pathology.

104  Applied Plant Pathology for Ornamentals and Turf
Fall of odd years. 3(2-2) Fall: W. K. Kellogg Biological Station and All CHM communities and Grand Rapids. R: Open to agricultural technology students in the College of Agriculture and Natural Resources. Diseases of woody ornamentals and turf grasses.

105  Fundamentals of Applied Plant Pathology
Spring. 2(2-2) R: Open to students in the Institute of Agricultural Technology. Not open to students with credit in PLP 405. Diseases of major agronomic and horticultural plants. Disease management. Offered first ten weeks of the semester.

200  Plant Diseases and Their Pathogens
Fall of even years. 3(2-2) Fall: All CHM communities and Traverse City. R: Open to agricultural technology students in the College of Agriculture and Natural Resources. Plant diseases. Biology of pathogens that cause disease. Disease management, with focus on Northern Michigan.

266  Turf Pathology
Fall. 3(2-2) SA: CSS 362, PLP 366
Turf pathogens and turf diseases. Cultural, biological and chemical methods for turf disease management.

402  Biology of Fungi
Fall of odd years. 3(2-3) Interdepartmental with Plant Biology. Administered by Plant Biology. P: BS 162 or BS 161 or PLB 105 or LB 145 or BS 182H or BS 181H SA: BOT 402
Characteristics, habitats, and diversity of major groups of fungi. Ecologic and economic importance of fungi.

405  Plant Pathology
Spring. 3(2-3) P: (BS 161 and BS 162) or (PLB 105 and PLB 106) or (LB 144 and LB 145) and completion of Tier I writing requirement SA: BOT 405
Plant diseases and the organisms that cause them. Principles of disease management including application of chemicals, plant breeding, biological control, and genetic engineering.

407  Diseases and Insects of Forest and Shade Trees
Spring. 4(3-3) Interdepartmental with Entomology and Plant Biology. Administered by Plant Pathology. P: (PLB 105 or BS 162 or LB 144) and Completion of Tier I Writing Requirement SA: BOT 407
Diseases, insects, and environmental problems affecting trees in forests, parks, suburbs, and nurseries. Methods of control.

490  Independent Study
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course.
Independent study of plant pathology on a laboratory, field or library research program of special interest to the student.

491  Selected Topics in Plant Pathology
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. P: PLP 405 or PLP 407
Selected topics in plant pathology of current interest and importance.

492  Seminar
Spring. 2(2-0) P: (PLP 498) and completion of Tier I writing requirement RB: PLP 405
Capstone course. Experience in scientific writing, oral presentations, professional preparation, and current developments in plant pathology.

493  Professional Internship in Plant Pathology
Fall, Spring, Summer. 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. A student may earn a maximum of 6 credits for any or all of these courses: ABM 493, ANR 493, ANS 493, CMP 493, CSS 493, CSUS 493, EEP 493, FIM 493, FSC 493, FW 493, HRT 493, PKG 493, and PLP 493. R: Approval of department; application required. Supervised professional experiences in agencies and businesses related to plant pathology.

498  Undergraduate Research
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course. P: Completion of Tier I writing requirement. R: Approval of department.
Faculty supervised laboratory. Field research in plant pathology.

812  Epidemiology of Plant Diseases
Spring of odd years. 3(3-0) SA: BOT 812
Populations of plant pathogens within populations of plant hosts as affected by the environment and humans.

820  Plant Reproductive Biology and Polyploidy
Spring of odd years. 3(3-0) Interdepartmental with Crop and Soil Sciences and Forestry and Horticulture and Plant Biology. Administered by Horticulture. RB: Introductory Genetics and Plant Biology
Genetic processes underlying variations in plant reproductive biology and polyploidy. Utilization of these characteristics in plant breeding.

821  Crop Evolution
Spring of odd years. 1 credit. Interdepartmental with Crop and Soil Sciences and Forestry and Horticulture and Plant Biology. Administered by Horticulture. RB: Introductory Genetics and Plant Biology
Cultural and biological aspects of the evolution of domestic plants.

822  Historical Geography of Crop Plants
Spring of odd years. 1 credit. Interdepartmental with Crop and Soil Sciences and Forestry and Horticulture and Plant Biology. Administered by Horticulture. RB: Introductory Genetics and Plant Biology
Development and spread of the major crop species.

847  Advanced Mycology
Spring of even years. 4(2-4) Interdepartmental with Plant Biology. Administered by Plant Pathology. RB: PLB 402 SA: BOT 847
Systematics, identification, physiology, genetics, and molecular biology of plant pathogenic fungi.

881  Molecular and Biochemical Plant Pathology
Spring of odd years. 3(2-2) RB: MB 462 and ZOL 341 and PLB 415 SA: BOT 881
Biochemical and molecular bases of host-pathogen interactions. Mechanisms of pathogenicity and the nature of disease resistance.

882  Soilborne Pathogens and Diseases
Fall of even years. 3(2-2) RB: PLP 405
Diseases caused by soilborne pathogens. Epidemiology, disease management, techniques for study of soilborne pathogens and diseases. Pathogen identification and detection.

884  Prokaryotic Diseases of Plants
Fall of even years. 3(3-0) Interdepartmental with Plant Biology. Administered by Plant Pathology. RB: PLP 405 SA: BOT 884

885  Plant Diseases in the Field
Summer of odd years. 2(1-3) R: Open to graduate students. SA: BOT 885
Diagnosis of plant diseases and disorders in a field setting. Field trips and independent study required.

890  Independent Study
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open to graduate students.
Individual study in laboratory, field or library research in plant pathology.

893  Selected Topics
Fall, Spring, Summer of odd years. 1 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course. Current topics in plant pathology.

894  Seminar in Plant Pathology
Fall, Spring. 1(1-0) A student may earn a maximum of 6 credits in all enrollments for this course.
Review, organization, analysis and oral presentation of research.

899  Master's Thesis Research
Fall, Spring, Summer. 1 to 12 credits. A student may earn a maximum of 99 credits in all enrollments for this course.
Master's thesis research.
999 Doctoral Dissertation Research
Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 99 credits in all enrollments for this course.
Doctoral dissertation research.