General Plant Pathology  
(3.0 credits)

Normally Offered:  Fall every year. By Ann Gould.

Pre-requisites and other registration restrictions:
01:119:115 General Biology OR 01:119:103 Principles of biology; Open to all majors

Format:  Two 80-minute lectures weekly; no independent lab time required; walking tour (one class period) of plant diseases on Cook/Douglass Campuses

Description:
General Plant Pathology is an introductory class where the nature of plant disease and its management are discussed. Topics examined in this course include the organisms and environmental conditions that cause disease in plants, the mechanisms by which these factors induce disease, the interactions between disease agents and their hosts, disease spread, prevention, and management, and the human and environmental costs of plant diseases.

Learning Goals:
• Recognize the major groups of organisms that cause diseases in plants
• Become familiar with the mechanisms plant pathogenic organisms use to cause plant disease
• Be able to discuss methods for plant disease management
• Be able to describe methods for plant disease diagnosis

Measures of Assessment:
• In-class examinations; final examination
• Weekly quizzes (on-line)
• Weekly assignments
• Term paper
• Class participation

Course Website:
eCollege/eCompanion

Topics:
• History of plant pathology
• Pathogen groups
  o Plant pathogenic fungi
  o Pathogenic prokaryotes
  o Viruses
  o Nematodes and parasitic plants
• Abiotic plant diseases
• Plant/host interactions (ecological, physiological, and genetic)
• Epidemiology
• Disease management
• Plant disease diagnostics
• General types of plant diseases
  o Rusts and smuts
  o Diseases of aerial plant parts and vascular tissues
  o Soilborne diseases
  o Post-harvest diseases

Required and Recommended Course materials:
Text book required: G. L. Schumann and C. J. D’Arcy. Essential Plant Pathology. APS Press, St. Paul, MN. Textbook and accompanying CD. 2006 or 2009 editions may be used. Supplementary readings will be provided materials, or materials will be available on reserve in Chang Library and online.

Policies for Exams, Assignments, Attendance, and Grading
There are weekly quizzes (administered online), weekly assignments, two in-semester examinations, and a semi-comprehensive final exam. Examinations and quizzes are composed of true-false, multiple choice, fill-in-the-blank, matching, compare-and-contrast, short answer, and essay questions. A term paper is required.

Course grades are based on 400 points and distributed as follows: examination I: 25% (100 pts); examination II: 25% (100 pts); final exam (semi-comprehensive): 30% (120 pts); quizzes and homework: 10% (40 pts); written report: 10% (40 pts).

Grades are based on a ten-point scale (90-100% = A; 80-89 = B; 70-79 = C; 60-69 = D). Opportunities for extra credit are provided throughout the semester.

Other Information:
1. Majority (70%) of final examination focuses on last one-third of course material presented. The remainder of the examination is comprehensive, and students are expected to understand and answer questions concerning the broader concepts presented in class.

2. Attendance is encouraged; as a courtesy, students unable to attend should forward an e-mail to the instructor before or shortly after the missed class.
3. A written report (approx. 10 pages) is required. Students may choose to prepare a disease lesson or a standard term paper on a disease or relevant topic of their choice. The assignment will be evaluated on accuracy of information, presentation and grammatical quality, and clarity. Proper citation of source materials is required; plagiarism will not be tolerated.

4. The companion, 1-credit laboratory course, 11:770:311, is not required, but a fuller understanding of the discipline is experienced by students who enroll.