



ENVS*3210 Plant Pathology

Fall 2023

Section(s): 01

School of Environmental Sciences

Credit Weight: 0.50

Version 1.00 - September 07, 2023

1 Course Details

1.1 Calendar Description

This course examines the nature of disease in plants, including their causal agents, etiology, biology, epidemiology, and management. Emphasis is placed on the historical and social importance of plant diseases, and on current issues in plant health. Each student is required to make a collection of 20 plant disease specimens. Students must contact the course instructor before starting their collection.

Pre-Requisites: 1 of BIOL*1040, BIOL*1050, BIOL*1070
Equates: ENVB*3210

1.2 Course Description

ENVS*3210 Plant Pathology F (2-3) [0.5]. This course examines the nature of disease in plants. Emphasis is placed on the broad concepts and principles of plant pathology, pathogen biology, the historical and social importance of plant diseases, contemporary topics related to plant-pathogen interactions and plant disease management.

1.3 Timetable

Lectures: Wednesdays and Fridays 11:30 am - 12:20 pm ET

Labs: Mondays at 11:30 am to 2:20 pm ET and 2:30 pm to 5:20 pm ET. There are no labs scheduled Monday October 9.

1.4 Final Exam

There will not be a final exam in this course.

2 Instructional Support

2.1 Instructional Support Team

Instructor: Tom Hsiang
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2.2 Teaching Assistants

Teaching Assistant (GTA): Ed McNab
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Teaching Assistant (GTA): Isadora Bischoff Nunes
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3 Learning Resources

3.1 Additional Resources

Course Materials (Other)

Required Texts: None

Recommended Text: Plant Pathology, 5th Edition, G. Agrios, 2005, Academic Press

The instructors/TAs will post announcements and other material on CourseLink that will enhance your understanding of the course content. All course materials made available through CourseLink and all items covered in class are considered required, unless the instructor explicitly indicates otherwise. Please check the CourseLink site often.

4 Learning Outcomes

[Course Content](#)

This course examines the nature of diseases in plants. Lectures deal primarily with broad concepts and principles of plant pathology, pathogen biology and diversity, contemporary topics related to plant-pathogen interactions and plant disease management. The laboratories involve the diagnosis of a variety of diseases; identification of plant pathogens; and preparation of disease reports and a plant disease collection. In addition to specifically addressing the University Learning Objectives of literacy, numeracy, depth and breadth of understanding, and love of learning, students will be expected to achieve the following learning objectives.

4.1 Course Learning Outcomes

By the end of this course, you should be able to:

1. describe and recognize the principles of plant pathology and etiology of representative diseases and pathogens
 2. identify the historical and socio-economic importance of plant diseases by describing the extent of damage associated with major diseases
 3. demonstrate the ability to find and diagnose plant diseases and identify plant pathogens
 4. describe the principles of disease management
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5 Teaching and Learning Activities

5.1 Lecture

Topics:

Lecture Content

- Introduction to plant pathology
- Historical perspective, social impact of plant diseases and general concepts in plant pathology
- Symptoms and overview of groups of plant pathogens
- The infection process, disease cycles and disease development
- Plant diseases caused by Prokaryotes, Protozoa, Chromista, Ascomycetes and Basidiomycetes
- Plant diseases caused by nematodes, viruses and parasitic plants
- Abiotic and physiological disorders in plants
- Disease epidemics and disease forecasting
- Disease management, including biological control
- Food security, mycotoxins and bioterrorism
- Fungicide resistance

- Host resistance and activated defence
- Modern plant pathology techniques
- Additional topics (to be determined)

5.2 Lab

Topics:

Labs

- Plant disease tour and collecting plant disease specimens
- Diseases caused by Prokaryotes
- Diseases caused by Protozoa and Chromista
- Diseases caused by Ascomycetes Part I
- Diseases caused by Ascomycetes part II
- Diseases caused by Basidiomycetes Part I
- Diseases caused by Basidiomycetes Part II
- Diseases caused by abiotic conditions, viruses, parasitic plants, nematodes
- Presentations on other select plant disease topics
- Workshop at the Guelph Turfgrass Institute (GTI)

6 Assessments

6.1 Marking Schemes & Distributions

Name	Scheme A (%)
Midterm 1	25
Midterm 2	25
Lab Quizzes	18
Disease Report 1	6
Disease Report 2	6
Disease Collection	20
Bonus Presentation (Optional)	0
Total	100

6.2 Assessment Details

Midterm Exam 1 (25%)

Date: October 18 during lecture period

Learning Outcome: 1, 2, 4

Midterm Exam 1 is worth 25% of your final mark. It will take place during the regular 50 minute lecture period. The Midterm will examine you on all materials covered up to and including the lecture presented October 13. No aids (e.g., calculators, smart phones, notes) are permitted. The Midterm Exam will not be returned, however it may be reviewed and discussed by appointment with the instructor.

Midterm Exam 2 (25%)

Date: November 24, during lecture period

Learning Outcome: 1, 2, 4

Midterm exam 2 is worth 25% of your final mark. It will take place during the regular 50 minute lecture period. This Midterm is not cumulative and will examine you on all material covered after Midterm 1 up to and including the November 22 lecture. No aids (e.g., calculators, smart phones, notes) are permitted. The Midterm Exam will not be returned, however it may be reviewed and discussed by appointment with the instructor.

Lab Quizzes (18%)

Date: Mondays: September 25; October 2, 23, 30; November 6, 13, 20, in the regular lab room.

Learning Outcome: 1, 3, 4

There will be a total of seven quizzes at the start of select labs. All quizzes require integration of the materials presented in lectures and in laboratories. Each quiz will be based on the material covered in the previous 1-2 labs. If you write all seven quizzes, your lowest mark will be dropped.

Plant Disease Reports (12%)

Date: October 12; November 9

Learning Outcome: 1, 2, 3, 4

Each student has the opportunity to prepare two plant disease reports. The reports are valued at 6% each and are due by 6:00 pm ET on the due date in the CourseLink Dropbox. Assignments handed-in late to the Dropbox, for which an extension has not been granted ahead of time, will incur a penalty of 10% of the total marks available for the assignment per day, and will no longer be accepted five days after the due date (i.e., after 6:00 pm ET Tuesday October 17 for report 1 and 6:00 pm ET Tuesday November 14 for report 2), resulting in a mark of zero for the assignment.

Plant Disease Collection (20%)

Date: November 29, Room 2310 Graham Hall

Learning Outcome: 1, 2, 3, 4

Each student has the opportunity to prepare a collection of 10 plant diseases. Some time is available during the weekly laboratory periods for identifying specimens for your collection, and there will be a lab that is primarily devoted to completing the disease collection. The plant disease collection is valued at 20% of your final mark and is due on November 29 in the regular lecture room at the beginning of the regular lecture period (11:30 am ET). You may also hand in your collection during any lab period prior to this date. The due date for the disease collection is final, however an exception may be granted under exceptional cases. You must contact an instructor prior to the due date (November 29) to request an extension and discuss any accommodation

Bonus presentation (optional) (0%)

Date: Scheduled with the instructor

You can obtain up to five bonus marks added to your final course mark by delivering a presentation during a class or lab period on a recent topic that is related to plant pathology. The presentation can be completed by yourself or with one other classmate, with paired students receiving the same mark. If you do not deliver a presentation, you will have the opportunity to receive three marks for evaluating the presentations. Further details are described under the Assessments tab in CourseLink. Please note that you can not receive a final grade above 100% in the course.

7 Course Statements

7.1 Grading Policies

Please advise an instructor of examination conflicts as soon as possible. If you have an illness or other issue, please see your program counsellor and ask them to issue a notice to an instructor. There are no make-up opportunities for lab quizzes. There are no alternate times for writing the Midterms, however requests for academic consideration because of an illness or compassionate circumstances can be made in writing to the instructor **prior to** the date for the particular Midterm. The normal accommodation is the re-weighting of marks. Penalties on late submission of assignments (disease reports, plant disease collection) are stated above.

8 University Statements

8.1 Email Communication

As per university regulations, all students are required to check their e-mail account regularly: e-mail is the official route of communication between the University and its students.

8.2 When You Cannot Meet a Course Requirement

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons please advise the course instructor (or designated person, such as a teaching assistant) in writing, with your name, id#, and e-mail contact. The grounds for Academic Consideration are detailed in the Undergraduate and Graduate Calendars.

Undergraduate Calendar - Academic Consideration and Appeals

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Graduate Calendar - Grounds for Academic Consideration

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

Associate Diploma Calendar - Academic Consideration, Appeals and Petitions

<https://www.uoguelph.ca/registrar/calendars/diploma/current/index.shtml>

8.3 Drop Date

Students will have until the last day of classes to drop courses without academic penalty. The deadline to drop two-semester courses will be the last day of classes in the second semester. This applies to all students (undergraduate, graduate and diploma) except for Doctor of Veterinary Medicine and Associate Diploma in Veterinary Technology (conventional and alternative delivery) students. The regulations and procedures for course registration are available in their respective Academic Calendars.

Undergraduate Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Graduate Calendar - Registration Changes

<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/genreg-reg-chg.shtml>

Associate Diploma Calendar - Dropping Courses

<https://www.uoguelph.ca/registrar/calendars/diploma/current/c08/c08-drop.shtml>

8.4 Copies of Out-of-class Assignments

Keep paper and/or other reliable back-up copies of all out-of-class assignments: you may be asked to resubmit work at any time.

8.5 Accessibility

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required; however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to make a booking at least 14 days in advance, and no later than November 1 (fall), March 1 (winter) or July 1 (summer). Similarly, new or

changed accommodations for online quizzes, tests and exams must be approved at least a week ahead of time.

For Guelph students, information can be found on the SAS website
<https://www.uoguelph.ca/sas>

For Ridgetown students, information can be found on the Ridgetown SAS website
<https://www.ridgetownc.com/services/accessibilityservices.cfm>

8.6 Academic Integrity

The University of Guelph is committed to upholding the highest standards of academic integrity, and it is the responsibility of all members of the University community-faculty, staff, and students-to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff, and students have the responsibility of supporting an environment that encourages academic integrity. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

Undergraduate Calendar - Academic Misconduct
<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Graduate Calendar - Academic Misconduct
<https://www.uoguelph.ca/registrar/calendars/graduate/current/genreg/index.shtml>

8.7 Recording of Materials

Presentations that are made in relation to course work - including lectures - cannot be recorded or copied without the permission of the presenter, whether the instructor, a student, or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

8.8 Resources

The Academic Calendars are the source of information about the University of Guelph's procedures, policies, and regulations that apply to undergraduate, graduate, and diploma programs.

Academic Calendars
<https://www.uoguelph.ca/academics/calendars>

8.9 Illness

Medical notes will not normally be required for singular instances of academic consideration, although students may be required to provide supporting documentation for multiple missed assessments or when involving a large part of a course (e.g.. final exam or major assignment).
