

ENVS*3210 - Plant Pathology

Fall 2024 Course Outline

Section: 01

Credits: 0.50

Land Acknowledgement: Guelph

The University of Guelph resides on the ancestral lands of the Attawandaron people and the treaty lands and territory of the Mississaugas of the Credit. We recognize the significance of the Dish with One Spoon Covenant to this land and offer respect to our Anishinaabe, Haudenosaunee and Métis neighbours. Today, this gathering place is home to many First Nations, Inuit, and Métis peoples and acknowledging them reminds us of our important connection to this land where we work and learn.

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.

Prerequisite(s): 1 of BIOL*1040, BIOL*1050, BIOL*1070

Department(s): School of Environmental Sciences

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.

Prerequisite(s): 1 of BIOL*1040, BIOL*1050, BIOL*1070

Department(s): School of Environmental Sciences

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.

Lecture Schedule

TuTh 8:30am-9:20am in GRHM*2310 (9/5 to 12/13)

Live-streaming and recording of lectures will not be used in this course.

Instructor Information

Dr. Coralie Sopher

Email: csopher@uoguelph.ca

Office: Email is the best way to contact the instructor and answers are typically provided within 72h during regular work days/hours. All electronic communications should be done using your U of G email address. Please include "ENVS3210" in the subject line.

Additional Support

Teaching Assistants: Ed Mcnab (emcnab@uoguelph.ca) and Ajwal Dsouza (ajwal@uoguelph.ca)

Email is the best way to contact a TA and answers are typically provided within 72h during regular work days/hours. All electronic communications should be done using your U of G email address. Please include "ENVS3210" in the subject line.

Textbooks

Group	Title	Author	ISBN
Suggested	Agrios' Plant Pathology 6th Edition	Editor:Richard Oliver	9780128224298

Learning Resources

Required Resources

The instructor/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.

Campus Resources

If you are concerned about any aspect of your academic program: Make an appointment with a Program Counsellor (<https://www.uoguelph.ca/uaic/programcounsellors/>) in your degree program. If you are struggling to succeed academically: There are numerous academic resources offered by the Learning Commons (<https://www.lib.uoguelph.ca/using-library/spaces/learning-commons/>) including, Supported Learning Groups for a variety of courses, workshops related to time management, taking multiple choice exams, and general study skills.

Course Learning Outcomes

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
5. Evaluate a peer-reviewed scientific article related to plant pathology and clearly prepare and communicate a written critique of the article

Course Level Learning Outcomes

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 learning objectives.

Schedule of Topics and Assignments

Day	Date:	Activities	Due
Tue	10/15	Fall Study Break	

Teaching and Learning Activities

Lecture Topics (subject to minor changes)

- 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)

Lab Topics (subject to minor changes)

- Plant disease tour and introduction to plant pathology
- Diseases caused by Prokaryotes
- Diseases caused by Protozoa and Chromista
- Diseases caused by Ascomycetes Part I, Part II and Part III
- Diseases caused by Basidiomycetes Part I and 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)

Assessment Breakdown

{NOTE: instructor can add another row by hitting "TAB" button when they are at the end of the row}

Description	Weighting (%)	Due Date
Lab quizzes	24%	September 16-November 18
Journal article and citation submission	2%	October 3
Midterm 1	23%	October 10
Written assignment	12%	November 14
Midterm 2	23%	November 21
Lab assignments	16%	September 30-November 25

Assessment Details

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Midterm Exam 1

Date: October 10 during the lecture period

Midterm Exam 1 is worth 23% 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 on October 8. Midterm 1 will not be returned, however it may be reviewed and discussed by appointment with the instructor.

Course Learning Outcomes Assessed: 1, 2, 4

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Midterm Exam 2

Date: November 21 during the lecture period

Midterm Exam 2 is worth 23% 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 19 lecture. No aids (e.g., calculators, smart phones, notes) are permitted. Midterm Exam 2 will not be returned however, it may be reviewed and discussed by appointment with the instructor after your final course grade has been released.

Course Learning Outcomes Assessed: 1, 2, 4

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Lab Quizzes

Date: Mondays: September 23, 30; October 7, 28; November 4, 11, 18 in the regular lab room.

There will be a total of seven quizzes at the start of select labs. All quizzes are heavily based on materials presented in the laboratories, however some integration of lecture material can be expected. 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.

Course Learning Outcomes Assessed: 1, 3, 4

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In-Lab Assignments

Dates: September 30, October 28, November 11 and November 25.

Submitted during the lab period.

There will be a total of four lab assignments worth 4% each, one for each of four specified lab periods, to be completed in-person and handed in at the end (by 2:20 PM ET or 5:20 PM ET for the morning or afternoon lab, respectively) of the relevant lab period. The assignments will consist of questions related to topics studied in that lab, for example, you could be asked to identify and describe an unknown disease on a plant specimen that is similar to a disease studied in that lab. You will be assigned one of several versions of each assignment, and assignments are open-book. You are welcome to consult and work with your classmates on the assignments and you must hand in your own unique work.

Course Learning Outcomes Assessed: 1, 3, 4

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Written Assignment

Article and citation due: October 3 at 5:00 PM ET in the Dropbox (2%)

Written Review due November 14 at 5:00 PM ET in the Dropbox (12%)

Each student will prepare a written review of a peer-reviewed journal article related to the field of plant pathology. The article must be approved by a TA or instructor. The assignment has two parts that are submitted to the Dropbox by the due date stated above: Part 1. submission of a journal article and a citation and Part 2. submission of a written review.

Course Learning Outcomes Assessed: 1, 5

Last Day to Drop Course

The final day to drop Fall 2024 courses without academic penalty is the last day of classes: November 29

After this date, a mark will be recorded, whether course work is completed or not (a zero is assigned for missed tests/assignments). This mark will show on the student's transcript and will be calculated into their average.

Course Grading Policies

Late Assignments

The journal article, citation and written review are to be submitted online via CourseLink to the Dropbox by 5:00 PM ET on their respective due dates. If your submitted journal article is not acceptable, you will have until October 13 at 5:00 PM ET to submit a new article and citation for evaluation, without penalty. After this time, you will not receive any marks for the submission. A late submission of the written review will be penalized 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., not accepted after November 19 at 5:00 PM ET), resulting in a mark of zero for the assignment. Extensions will be considered for medical reasons and other extenuating circumstances and must be discussed with the instructor at least several days in advance of a due date. Once the due date has passed, requests for extensions will not be granted, unless there are exceptional circumstances.

There are no make-up opportunities for lab quizzes or in-lab assignments. There are no alternate times for writing the Midterm exams. Requests for academic consideration because of an illness or compassionate circumstances must be made in writing to the instructor prior to a Midterm date (i.e., prior to October 10 and November 21). Please advise your instructor of examination conflicts as soon as possible. The normal accommodation for Midterm I, in-lab assignments and quizzes is the transfer of marks to Midterm II. If a Midterm Exam, in-lab assignment or quiz is missed for a non-approved reason a mark of zero will be assigned.

Standard Statements for Undergraduate Courses

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 discourages misconduct. 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.

The Academic Misconduct Policy (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-misconduct/>) is outlined in the Undergraduate Calendar.

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 10 days in advance, and no later than the first business day in November, March or July as appropriate for the semester. Similarly, new or changed accommodations for online quizzes, tests and exams must be approved at least a week ahead of time. For students at the Guelph campus, information can be found on the SAS website. (<https://www.uoguelph.ca/sas/>)

Accommodation of Religious Obligations

If you are unable to meet an in-course requirement due to religious obligations, please email the course instructor within two weeks of the start of the semester to make alternate arrangements.

See the Academic calendar for information on regulations and procedures for Academic Accommodations of Religious Obligations (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-accommodation-religious-obligations/>).

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.

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 undergraduate students 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 the Undergraduate Calendar - Dropping Courses (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/dropping-courses/>).

Email Communication

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

Health and Wellbeing

The University of Guelph provides a wide range of health and wellbeing services at the Vaccarino Centre for Student Wellness (<https://wellness.uoguelph.ca/>). If you are concerned about your mental health and not sure where to start, connect with a Student Wellness Navigator (<https://wellness.uoguelph.ca/navigation/>) who can help develop a plan to manage and support your mental health or check out our mental wellbeing resources (<https://wellness.uoguelph.ca/shine-this-year/>). The Student Wellness team are here to help and welcome the opportunity to connect with you.

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).

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.

Resources

The Academic Calendars (<http://www.uoguelph.ca/registrar/calendars/?index>) are the source of information about the University of Guelph's procedures, policies and regulations which apply to undergraduate, graduate and diploma programs.

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. See the Undergraduate Calendar for information on regulations and procedures for Academic Consideration. (<https://calendar.uoguelph.ca/undergraduate-calendar/undergraduate-degree-regulations-procedures/academic-consideration-appeals-petitions/>)