



ENVS*3140 Management of Turfgrass Diseases

Fall 2019

Section(s): C01

School of Environmental Sciences

Credit Weight: 0.50

Version 1.00 - August 27, 2019

1 Course Details

1.1 Calendar Description

In this course ecology of turfgrass diseases and cultural methods of management will be emphasized, in addition to field recognition and microscopic diagnosis of diseases. Advances in biological and chemical control measures and their impact on turfgrass ecosystems and surrounding environments will also be discussed.

Pre-Requisites:	HORT*2450
Equates:	ENVB*3160
Restrictions:	DTM*3200

1.2 Course Description

ENVS*3140 Management of Turfgrass Diseases F (2-2) [0.50]

In this course ecology of turfgrass diseases and cultural methods of management will be emphasized, in addition to field recognition and microscopic diagnosis of diseases. Advances in biological and chemical control measures and their impact on turfgrass ecosystems and surrounding environments will also be discussed.

1.3 Timetable

Timetable is subject to change. Please see WebAdvisor for the latest information.

1.4 Final Exam

Exam time and location is subject to change. Please see WebAdvisor for the latest information.

2 Instructional Support

2.1 Instructional Support Team

Instructor: T Hsiang (PhD)
Email: thsiang@uoguelph.ca
Telephone: +1-519-824-4120 x52753
Office: Bovey 3227
Office Hours: By appointment

3 Learning Resources

3.1 Recommended Resources

Recommended Text (Textbook)

<http://www.omafra.gov.on.ca/english/crops/pub845/pub845.pdf>

OMAFRA 845, Integrated Pest Management for Turf (downloadable)

4 Learning Outcomes

This course covers the biology and management of turfgrass diseases and disorders emphasizing their ecology and cultural, biological and chemical means of control. Laboratory identification and field recognition of common turfgrass diseases are discussed, along with the impact of control methods on the environment.

4.1 Course Learning Outcomes

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

1. 1) to describe major groups of cool season (northern temperate zone) turf diseases;
 - 2) to properly identify causal agents in turf disease samples using a diagnostic manual and a microscope;
 - 3) to recognise the effects of environmental conditions on turf diseases;
 - 4) to recognise the impact of turf disease management practices on the environment;
 - 5) to differentiate between biotic and abiotic turf disease symptoms; and
 - 6) to use cultural, biological and chemical techniques to minimise severity of turf diseases.
 - 7) to demonstrate the ability to find and critically evaluate recent primary research articles on a turfgrass pathology issue, and to write a literature review integrating the information using appropriate scientific language
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5 Teaching and Learning Activities

5.1 Lecture

Topics: Lecture Content
 Introduction to Plant Pathology: disease triangle and cycles
 Winter diseases: grey snow mold and pink snow mold
 Spring Diseases: Fusarium patch, Leaf spots and melting out
 Root diseases: necrotic ring spot, take-all patch, summer patch, fairy ring
 Summer diseases: dollarspot, brown patch, anthracnose, pythium blight and root rot
 Other diseases: red thread and yellow patch, powdery mildew and rust
 Abiotic and miscellaneous diseases: slime molds, moss and algae, abiotic
 Fungicides - toxicity, cost, types, regulation
 Turf disease prediction & Turf disease research

5.2 Lab

Topics: Labs
 First Thursday lab, meet at GTI at 1 p.m. If heavy rain, meet in lab (GRHM 3309) at 1 p.m.
 Lab quiz (15 min), then Introduction to plant pathogens: nematodes, bacteria, fungi
 Lab quiz (15 min), then Snow Mold Diseases
 Lab quiz (15 min), then Spring Diseases (Fusarium Patch, Leaf spots, other leaf spots)
 Lab quiz (15 min), then Root Diseases (NRS, TAP, SP, other)
 Lab quiz (15 min), then Summer Diseases (Dollar spot, Fairy Ring)
 Lab quiz (15 min), then Summer Diseases I (brown patch, anthracnose, pythium)
 Other diseases (Powdery mildew, Red thread, Yellow patch, Waitea Patch, Rust)
 Lab quiz (15 min), then Other diseases (Moss and algae, Black layer, Dog patch, Seed rot and damping off, Cool season dieback)
 Lab quiz (15 min), then New Diseases: Gray Leaf Spot, Rapid Blight, Bacterial Wilt, and then Using Disease Key (practice identifying unknowns on slides or live samples)
 Lab quiz (45 min) on identifying unknowns

6 Assessments

6.1 Marking Schemes & Distributions

Name	Scheme A (%)
Lab Quizzes	24
Midterm Exam	21
Term Paper	20
Final Exam	35
Total	100

6.2 Assessment Details

Lab Quizzes (25%)

Due: Weeks 2-11 at lab start

Midterm Exam (20%)

Date: Thu, Oct 31

The Midterm exam is worth 21% of your final mark. It will take place during the lab period. The Midterm exam will cover all lecture and lab material (including guest lectures) up to and including the last lecture.

Term Paper (20%)

Due: Topic by end of week 4, Paper by end of week 8

Final Exam (35%)

Date: TBD

The Final Exam is worth 35% of your final mark. The Final Exam will cover all course material including labs

7 Course Statements

7.1 Grading Policies

Please advise the instructor of examination conflicts as soon as possible. If you have an illness or other problem, please see your program counsellor and ask them to issue a notice to instructors. There are no make-up opportunities for lab quizzes or the midterm, but academic consideration (such as transfer of marks to the final exam) may be given with appropriate supporting documentation.

7.2 Course Work

Group work for marked assignments is not permitted.

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>

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-regchg.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 book their exams at least 7 days in advance and not later than the 40th Class Day.

More information can be found on the SAS website

<https://www.uoguelph.ca/sas>

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>