1 Course Details

1.1 Calendar Description
Soils are the site of complex interactions between minerals, water, air, organic matter and living organisms. This course will focus on the organisms that live in the soil and their activities in soil ecosystems, soil as a habitat for organisms, the key role of microorganisms in nutrient cycles and plant-microbe relationships and will review basic soil microbial and ecological principles.

Pre-Requisites: 10.00 credits including (1 of AGR*2320, ENVS*2060, SOIL*2010)
Equates: ENVS*3200, SOIL*3200

1.2 Course Description
Same as calendar description

1.3 Timetable
Lectures: Tuesday and Thursday 11:30-12:50; MCKN 307
Tutorial: Thursday 2:30-3:20; AH 030.

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

2 Instructional Support
Instructor: Dr. Adam Gillespie

Email: agilles@uoguelph.ca

Telephone: +1-519-824-4120 x52075

Office: ALEX 225

3 Learning Resources

3.1 Required Resources


Global Soil Biodiversity Atlas (Other)
https://www.globalsoilbiodiversity.org/atlas-introduction

Digging into Canadian Soils (Textbook)
https://openpress.usask.ca/soilscience/

3.2 Recommended Resources


4 Learning Outcomes

4.1 Course Learning Outcomes

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

1. **On completion of this course students will be able to:**

   1. Understand terms associated with the soil microbial environment.

   2. Identify types and interactions of organisms in the soil food web.

   3. Interpret and integrate modern concepts about soil microorganisms and nutrient cycles.
4. Understand the importance of soil microbial communities to environmental sustainability and function.

5 Teaching and Learning Activities

5.1 Lecture content

Chapin, Paul Textbook Matson, Vitousek

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Module 4  Ecology  3-6,10,11  8,10  Bonfante 2010
Weeks 9,10  Ecology  Gaiero 2013
PGPR  Kuzyakov 2015
Mycorrhizae  Oberger 2018
Rhizosphere

Module 5  Applications  17,18  Sanderman 2017
Weeks 11, 12  Models  Factsheet
Soil Health
Composting

6 Assessments

6.1 Assessment Details
Quiz 1 (12.5%)
Date: Thu, Jan 27, CourseLink or in-class

Quiz 2 (12.5%)
Date: Thu, Feb 24, CourseLink or in-class

Quiz 3 (12.5%)
Date: Thu, Mar 17, CourseLink or in-class

Quiz 4 (12.5%)
Date: Fri, Apr 8, CourseLink or in-class

Meet the soil microbe (15%)
Date: Scheduled

Microbe in the news (15%)
Date: Scheduled

Soil organism major paper (20%)
Date: Tue, Apr 5
Term paper topic TBD.

7 University Statements

7.1 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.

7.2 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

7.3 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-regregchg.shtml

Associate Diploma Calendar - Dropping Courses
https://www.uoguelph.ca/registrar/calendars/diploma/current/c08/c08-drop.shtml

**7.4 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.

**7.5 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

**7.6 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

7.7 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.

7.8 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

7.9 Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings, changes in classroom protocols, and academic schedules. Any such changes will be announced via CourseLink and/or class email.

This includes on-campus scheduling during the semester, mid-terms and final examination schedules. All University-wide decisions will be posted on the COVID-19 website (https://news.uoguelph.ca/2019-novel-coronavirus-information/) and circulated by email.

7.10 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).

7.11 Covid-19 Safety Protocols

For information on current safety protocols, follow these links:

- https://news.uoguelph.ca/return-to-campuses/how-u-of-g-is-preparing-for-your-safe-return/
- https://news.uoguelph.ca/return-to-campuses/spaces/#ClassroomSpaces

Please note, these guidelines may be updated as required in response to evolving University, Public Health or government directives.