ENVS*3010 - Climate Change Biology
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 impacts of climate change on living organisms, biological communities and ecosystems. The course focuses on what is known, and what is not known, about the ways in which the suite of changing climate variables influence biological systems.
Prerequisite(s): BIOL*2060
Department(s): School of Environmental Sciences

Lecture Schedule

MonWedFri 9:30am-10:20am in LA*204 (9/5 to 12/13)

Important: You can attend the class in-person or remotely via Zoom. The classes are also recorded.

Please attend remotely if you don't feel well.

Instructor Information

Simone Haerri (she/her), Dr.
Instructor
Email: shaerri@uoguelph.ca

Stephen Sumary (he/him)
Teaching Assistant
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Evan Mayer (he/him)
Teaching Assistant
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Communicating With Your Instructor

I will mostly be working from home. E-mail will be the best way to get in touch with me. I generally answer E-mails once a day. So expect a response within 24 - 48 hours. If your E-mail is time-sensitive, then I will answer as quickly as possible.

E-mail: If you have a conflict that prevents you from completing course requirements, or have a question concerning a personal matter, you can send your instructor a private message by email.

After class: I am always happy to address questions after class.

Office hours: Office hours are held virtually via Zoom Mondays 1:00 pm - 2 pm.

Discussion Forum: Use the discussion forum to ask questions of your instructor about content or course-related issues with which you are unfamiliar. If you encounter difficulties, the instructor is here to help you. Please post general course-related questions to the discussion forum so that all students have an opportunity to review the response. To access this discussion forum, select Discussions from the Tools dropdown menu.

Video Call: If you have a complex question you would like to discuss with your instructor or you have a conflict during office hours, you may book a video meeting via Zoom. Video meetings depend on availability and are booked on a first come first served basis.

General Note: Your physical and mental well- being is more important than your schoolwork. If you find yourself unable to participate to the best of your abilities, reach out to me, and we can discuss the best way for you to navigate and succeed in this course. Take care of yourself and each other.

Learning Resources

Required Resources

Tophat

We will be using the Top Hat (www.tophat.com) classroom response system in class and for homework. You will be able to submit answers to in-class questions using Apple or Android smartphones and tablets, laptops, or through text message. Top Hat allows us to provide a more engaging and interactive environment, that ultimately helps your learning and boosts your understanding of core concepts. It also allows us to get immediate feedback from you and allows us to adjust the course content accordingly. It also allows you to participate remotely.

You can visit the Top Hat website (https://tophat.com/students/) which outlines how you will register for a Top Hat account, as well as providing a brief overview to get you up and running on the system.

An email invitation will be sent to you by email, but if don't receive this email, you can register by simply visiting our Top Hat course website (https://app.tophat.com/e/778942/). Our Course Join Code is 778942.

Unfortunately, Top Hat requires a paid subscription, see a full breakdown of all subscription options (https://tophat.com/pricing/). For students who need financial assistance to pay for this subscription, please E-mail your instructor.

Should you require assistance with Top Hat at any time, due to the fact that they require specific user information to troubleshoot these issues, please contact their Support Team (https://support.tophat.com/student-support/).

CourseLink

The instructor uses CourseLink (https://courselink.uoguelph.ca) for posting class announcements, recorded lectures, lecture slides, grades and other required and recommended materials that is relevant to this course. Please check CourseLink at least **once** a day.

If you need any assistance with the software tools or the CourseLink website, contact CourseLink Support.

Email: courselink@uoguelph.ca
Tel: 519-824-4120 ext. 56939 Toll-Free (CAN/USA): 1-866-275-1478

Course Resources

Zoom

You will be able to attend classes via Zoom or in-person.

- Optional virtual attendance for every class: Mondays, Wednesdays and Fridays 9:30 am - 10:20 am

- Office hours: Mondays from 1:00 pm - 2:00 pm

You will be able to access Zoom from within the CourseLink page under Content and then Zoom. Make sure your Zoom account is set-up using your uoguelph E-mail address.

Zoom guidelines

All lectures will be recorded via Zoom and later shared on Courselink.

By default, you will join the class with your microphone and video turned off. Please wait for instructions before you turn on your audio and/or video.

I encourage everyone to participate with audio when applicable. If you have wifi connectivity issues and/or privacy concerns, the use of video is not required. Within Zoom, there is also the option to rename yourself to your initials. There is also an option to call into a Zoom meeting with your phone if you have no internet.

Please reach out early in the semester to indicate your concerns with technology, privacy, and internet connectivity so we can work out a plan.

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. Interpret the current climate change in a historical context and define natural and human causes of climate variability
2. Examine the general trends in future climate and interpret the variability in future climate predictions through running different computer models
3. Explain expected changes in the net primary production of ecosystems through the analysis of different effects of climate change on plant physiology and decomposition
4. Hypothesize how different species and entire communities react to the changing climate by formulating a scientific question that will be applied to the design of a poster
5. Design experimental methods necessary to study how individuals, populations, communities, and entire ecosystems will respond to the changing climate and discuss their limitations

Teaching and Learning Activities

Weekly Activities

This is a tentative schedule and is subject to change.

- Week 1 - Natural climate variability
- Week 2 - Anthropogenic effects on climate
- Week 3 - Climate of the future
- Week 4 - Plant physiology and climate change
- Week 5 - Phenology and insects
- Week 6 - Population responses
- Week 7 - Community responses
- Week 8 - Ecosystem responses
- Week 9 - Poster presentations
- Week 10 - Evolutionary responses
- Week 11 - Forests and agricultural responses
- Week 12 - Adaptation and mitigation

Assessment Breakdown

Description	Weighting (%)	Due Date
Future Projection	15%	Friday of Week 4 (Oct/4)
Poster	20%	Friday of Week 8 (Nov/1)
Method Piece	20%	Friday of Week 12 (Nov/29)
Final Exam	30%	Exam period (Dec/6)
Participation (Tophat)	15%	During each class
BONUS Lecture Summaries	2.5%	Sunday of each week

Assessment Details

Posters

Posters will be done in groups of four students. You can choose your own group, or be randomly assigned to a group. The deadline to enrol to a group is October 14, 2024.
The posters will be presented via Zoom during classes of Week 9.

There will be a peer assessment of your contribution to group work after the poster submission. If your group contribution was below average, marks will be deducted from your poster mark.

Take-home final exam

The final exam will be cumulative and include all the content covered during the course of the semester.

The final exam will be sent to you via E-mail on the last day of classes. Take-home exams are to be submitted via the Dropbox tool in CourseLink.

Weekly Participation (Tophat)

During each lecture, there will be different kinds of questions testing your understanding of the material, allow you to engage with the content, and receive immediate feedback. These will be done using Tophat and are mostly a participation and very small correctness grade.

All in-class Tophat activities/questions can also be completed outside lecture times and are due at the end of the day following each lecture.

Lecture summaries (Bonus)

You can obtain 0.5 bonus marks for handing in a well-written and complete summary of all content covered in all classes for one week that can be shared with the rest of the class. The instructor team will either accept or reject your summary. The summary has to be well written, contain fully formulated sentences and paragraphs, connect ideas and concepts, show a clear understanding of the material and include all relevant content covered during a specific class. This bonus cannot exceed 2.5 marks (5 summaries) and is only applied if your course grade without this bonus exceeds 50%.

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

Submission of Assignments

Assignments are to be submitted online via D2L before midnight on the due date.

Late Assignments

Assignments handed-in late, for which an extension has not been granted ahead of time, will lose 10 marks (out of 100) per day late (or part thereof). For example, if you receive an 85% on your assignment but you submitted one day late, you will receive a 75% instead. Assignments submitted one week (or later) after the due date will not be accepted. If you require an extension on an assignment, you must have a valid reason and contact Dr. Ha#rri in advance of the due date.

Extensions will be considered for medical reasons or other extenuating circumstances.

Course Standard Statements

Course Policies

Group work

This course encourages group work and collaborative problem solving. For the in-class Tophat questions, you are allowed to discuss answers with your peers. The poster is completed within a group. The future projection, the method piece and the take-home final exam should be written entirely by the student alone, should reflect the opinion of the student alone and should be the original work of the student. For group assignments, the completed assignment should contain only work which has been produced by members of the group in question.

Dropbox submissions

Assignments should be submitted electronically via the online Dropbox tool. When submitting your assignments using the Dropbox tool, do not leave the page until your assignment has successfully uploaded. To verify that your submission was complete, you can view the submission history immediately after the upload to see which files uploaded successfully. The system will also email you a receipt. Save this email receipt as proof of submission.

Be sure to keep a back-up copy of all of your assignments in the event that they are lost in transition. In order to avoid any last-minute computer problems, your instructor strongly recommend you save your assignments to a cloud-based file storage (e.g., OneDrive), or send to your email account, so that should something happen to your computer, the assignment could still be submitted on time or re-submitted.

Turnitin

In this course, your instructor will be using Turnitin, integrated with the CourseLink Dropbox tool, to detect possible plagiarism, unauthorized collaboration or copying as part of the ongoing efforts to maintain academic integrity at the University of Guelph.

All submitted assignments will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the Usage Policy posted on the Turnitin.com site.

You will not be allowed to access your own Turnitin results. However, if you are concerned about your ability to properly paraphrase and avoid plagiarism, send an email to the instructor at least two days before the due date of an assignment, and you will get access to your Turnitin results after submitting your assignment early (and being allowed to resubmit after the necessary changes).

Use of AI tools

Please read the University of Guelph's statement on the use of AI, including ChatGPT and similar tools, and academic integrity (https://news.uoguelph.ca/2023/03/university-of-guelph-statement-on-artificial-intelligence-systems-chatgpt-academic-integrity/). For this course, generative AI tools may be used in accordance with UofG's academic integrity policies. Misuse of AI, including using it to generate entire assignments or misrepresenting its contributions as your own, will be considered a violation of academic integrity policies. The use of generative AI is prohibited for completing the final exam.

Generative AI tools may be used in this course to assist with generating ideas, creating draft outlines, and improving the clarity of your writing, provided that this use adheres to academic integrity standards. These tools should serve as supplementary aids, not as replacements for your own critical thinking, analysis, and creativity. Your submitted work must clearly reflect that the core ideas are your own. If you choose to use AI tools for any work in this course, including assignments and lecture summaries, you must acknowledge their use by providing a brief description of how the tools were used and citing them in APA style.

A word of caution: You are responsible for verifying the accuracy of any content generated by AI tools. These tools can produce inaccurate, false, misleading, or biased information. It is your responsibility to critically evaluate any generated content. Additionally, be cautious when providing personal or sensitive data to any generative AI tool.

(The preparation of the "Appropriate and Fair Use of AI Tools" section for this outline was drafted using ChatGPT and then critically analysed and edited by myself to ensure that the written paragraph reflected my own work. At the end, ChatGPT was used to improve the clarity of my writing followed by one final editing check by myself.)

OpenAI. (2024). *ChatGPT* (August 26 version) [Large language model]. https://chat.openai.com/chat (https://chat.openai.com/chat/)

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/navigators/) 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/)