



ENVS*2270 Impacts of Climate Change

Winter 2019

Section(s): C01

School of Environmental Sciences

Credit Weight: 0.50

Version 1.00 - January 03, 2019

1 Course Details

1.1 Calendar Description

This course will provide students with an overview of recent research into what climate change means for Canada and Canadians. Students will learn about evidence for significant changes to the Boreal forests and about the potential impacts of climate change on human health through increasing heat waves and the heat stress on individuals. The course is intended to bridge the gap between abstract discussion of the climate and understand what these changes mean at both personal and societal levels.

Pre-Requisite(s):

Minimum of 4.00 credits

Restriction(s):

May not be taken by students in the BAS, BBRM, BSC, BSC(Agr) or BSC(Env) programs

1.2 Timetable

RICH 2529

Tues, Thur, 1:00PM - 2:20PM

1.3 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:

Kimberley Bolton

Email:

kbolton@uoguelph.ca

Telephone: +1-519-824-4120 x54266

Office: ALEX 260

I do not have regularly scheduled office hours. Please email me to make an appointment.

2.2 Teaching Assistant(s)

Teaching Assistant: Kemp Simon

Email: ksimon@uoguelph.ca

3 Learning Resources

3.1 Additional Resource(s)

Online materials (readings and videos) will be assigned throughout the course. (Other)

4 Learning Outcomes

4.1 Course Learning Outcomes

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

1. Explain how interactions among atmosphere, ocean, land, and life lead to climate changes.
 2. Describe the direct observations of climate change in recent decades, and articulate the evidence attributing global warming in this time period to human causes
 3. Evaluate your own contribution to greenhouse gas emissions and climate change.
 4. Assess the utility, and limits, of climate models to predict global and regional climate change.
 5. Analyze the assumptions and evaluate the worth of the evidence regarding impacts of climate change in Canada
 6. Engage critically and in a scholarly manner, in public arguments about climate change issues.
 7. Evaluate the opportunities for climate change adaptation globally and in Canada.

 8. Describe proposed climate change mitigation strategies.
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5 Teaching and Learning Activities

5.1 Lecture Content

- Weather and Climate
 - Atmospheric circulation and ocean currents
 - Earth's energy budget
 - Radiative forcing
 - The Carbon cycle
 - Let's talk about Science
 - Scientists and the peer review process
 - IPCC
 - The importance of isotopes
 - Understanding graphs
 - Evidence of Climate Change
 - Global temperature
 - Human fingerprints
 - Paleoclimate and climate proxies
 - Orbital cycles
 - Climate feedback
 - Climate Projections
 - Emission scenarios
 - The climate models
 - The predictions
 - Impacts of Climate Change on Oceans
 - Ocean warming and acidification
 - Sea-level rise
 - Impacts of Climate Change
 - IPCC Terminology
 - Impacts on natural ecosystems
 - Impacts on Humans
 - What's in store for Canada
 - Adaptation and Mitigation
 - What can be done?
 - Climate Change adaptation
 - Mitigation strategies
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6 Assessments

6.1 Marking Schemes & Distributions

Name	Scheme A (%)
Online Group Discussions	10
In-class Midterm Examination	20
Climate Change Report: Climate Projections	15
Final Climate Change Report: Impacts	20
Final Exam	35
Total	100

6.2 Assessment Details

Online Group Discussions (10%)

Date: Throughout semester

Learning Outcome(s): 2,3,5,6

In-class Midterm Examination (20%)

Date: Thu, Feb 14, In class

Learning Outcome(s): 1,2,4,5

Climate Change Report: Climate Projections (15%)

Date: Mon, Mar 4

Learning Outcome(s): 2,4

Details will be available on Courselink.

Final Climate Change Report: Impacts (20%)

Date: Mon, Mar 25

Learning Outcome(s): 4,5,6,7

Details will be available on Couselink.

Final Exam (35%)

Date: Fri, Apr 12

Learning Outcome(s): 1,2,4,5,6,7,8

6.3 Notes

Online Group Discussions: There will be five graded discussions and each will have its own forum in the **Discussions** tool. For each forum, you will be given a topic to discuss (this may involve reading or watching online resources). Additional details will be provided on Courselink.

Midterm and Final Exams: Both exams are comprehensive, meaning that anything covered up to the midterm exam (including readings) is fair game, and the final exam will cover the entire course.

Assignments: The Climate Change Report assignment has two parts. The first part (Climate Projections) involves gathering data on climate projections for a Canadian National Park. You will receive feedback on this assignment and then you will submit the Final Climate Change

Report which will include the climate projections and information on the impacts of these projections to your a park. I will provide you with details about these assignments in class and on Courselink. Assignments should be submitted electronically via **Dropbox** on Courselink before midnight on the day that they are due.

7 Course Statements

7.1 Grading

Policy on Late Assignments: All late assignments will receive a 5% deduction for each day that they are late. Contact Dr. Bolton if you wish to request an extension.

7.2 Group Work

You are not authorized to work together on any part of this course. Doing so would constitute academic misconduct.

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

Courses that are one semester long must be dropped by the end of the fortieth class day; two-semester courses must be dropped by the last day of the add period in the second semester. The regulations and procedures for course registration are available in the Undergraduate and Graduate 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>

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>
