

Course Schedule

Important: **ALL TIMES EASTERN** - Please see the [University Policies](#) section of your Course Outline for details

For information regarding grading, please refer to the [Grade Breakdown](#) page.

| Module | Week | Readings and Other Assigned Material | Activities and Assignments | End/Due Date |
|--------|--|--|---|---|
| | | | Groups for Discussion Activities will be created by Technical Support | Check after Monday, May 8, 2023 at 12:01 AM |
| | Week 1: Introduction | Chapter 1: Climate Change in the Public Sphere | Week 1 Discussion Activities | Sunday, May 14, 2023 at 11:59 PM |
| | | | Week 2 Discussion Activities | Friday, May 19, 2023 at 11:59 PM |
| | Week 2: Introduction to the Climate System | Chapter 2: Basic System Dynamics | Complete your weekly quiz | Wednesday, May 24, 2023 at |

| | | | | |
|----------|--|--|--|-------------------------------------|
| Module 1 | | | (Quizzes). | 11:59 PM |
| | | | Week 3 Discussion Activities | Friday, May 26, 2023 at 11:59 PM |
| | Week 3: The Earth and Energy | Chapter 3: Climate Controls: Energy from the Sun | Complete your weekly quiz (Quizzes). | Wednesday, May 31, 2023 at 11:59 PM |
| | | | Week 4 Discussion Activities | Friday, June 2, 2023 at 11:59 PM |
| | Week 4: The Carbon Cycle | Chapter 5: Climate Controls: The Greenhouse Effect | Complete your weekly quiz (Quizzes). | Wednesday, June 7, 2023 at 11:59 PM |
| | | Week 5 Discussion Activities | Friday, June 9, 2023 at 11:59 PM | |

[Week 5: Past and Future Climate](#)

Chapter 7: Climate Models

Complete your weekly quiz ([Quizzes](#)).

Wednesday, June 14, 2023 at 11:59 PM

Submit your Module 1 [Discussion Summary Assignment](#) (Weeks 1-5)

Friday, June 16, 2023 at 11:59 PM

[Week 6: Impacts on Natural Systems](#)

Chapter 9: Climate Change Impacts on Natural Systems

Week 6 [Discussion Activities](#)

Friday, June 16, 2023 at 11:59 PM

Complete your weekly quiz ([Quizzes](#)).

Wednesday, June 21, 2023 at 11:59 PM

Week 7 [Discussion Activities](#)

Friday, June 23, 2023 at 11:59 PM

Module 2

[Week 7: Impacts on Humans](#)

Chapter 10:
Climate Change
Impacts and
Adaptation in
Human Systems

Complete your
weekly quiz
([Quizzes](#)).

Wednesday,
June 28,
2023 at
11:59 PM

Week 8
[Discussion](#)
[Activities](#)

Friday, June
30, 2023 at
11:59 PM

[Week 8:
Assessing
Vulnerability](#)

There is no chapter
assigned this
week.

Complete your
weekly quiz
([Quizzes](#)).

Wednesday,
July 5, 2023
at 11:59 PM

Week 9
[Discussion](#)
[Activities](#)

Friday, July
7, 2023 at
11:59 PM

[Week 9:
Adaptation](#)

There is no new
chapter assigned
this week. Please
refer back to
Chapter 10.

Complete your
weekly quiz
([Quizzes](#)).

Wednesday,
July 12,
2023 at
11:59 PM

Module 3

[Week 10:
Introduction to
Mitigation](#)

[Week 11: Politics,
Policy and
Governance](#)

Chapter 6 Climate
Change Mitigation:
Reducing
Greenhouse Gas
Emissions and
Transforming the
Energy System

Chapter 11:
Climate Change
Policy and
Governance

United Nations
Framework
Convention on

[Assignment 1:
Climate Change
Impacts and
Adaptation at the
Community
Scale](#) is due

Submit your
Module 2
[Discussion
Summary
Assignment](#)
(Weeks 6-9)

Week 10
[Discussion
Activities](#)
(Optional)

Complete your
weekly quiz
([Quizzes](#)).

Week 11
[Discussion
Activities](#)
(Optional)

Friday, July
14, 2023 at
11:59 PM

Friday, July
14, 2023 at
11:59 PM

Friday, July
14, 2023 at
11:59 PM

Wednesday,
July 19,
2023 at
11:59 PM

Friday, July
21, 2023 at
11:59 PM

Climate Change. Complete your
 (2015). [The Paris](#) weekly quiz
[Agreement](#). (pp. 1- ([Quizzes](#))).
 18).

Wednesday,
 July 26,
 2023 at
 11:59 PM

Week 12
[Discussion](#)
[Activities](#)
 (Optional)

Wednesday,
 July 28,
 2023 at
 11:59 PM

Complete your
 weekly quiz
 ([Quizzes](#)).

**Tuesday,
 August 1,
 2023 at
 11:59 PM**

Week 12:

Sustainability

Transformations:

Linking Adaptation

and Mitigation in

Communities

Chapter 12:
 Understanding
 Climate Change:
 Pathways Forward

Assignment 2:
Emissions and
Mitigation at the
Community
Scale is due.

**Tuesday,
 August 8,
 2023 at
 11:59 PM**

Contact Information

Announcements

You are expected to check **Announcements** on the **Course Home** page on a regular basis. To ensure you are viewing the complete list of announcements, you may need to click **Show All Announcements**.

Discussions

Discussion topics can be accessed by clicking **Connect** and then **Discussions** on the course navigation bar above. A [General Discussion](#) topic has also been made available to allow you to communicate with your peers in this course. Your instructor may drop in at this discussion topic.

Contact Us

Who and Why

Contact Details

Instructor and TA

- Course-related questions (e.g., course content, deadlines, assignments, etc.)
- Questions of a personal nature

Post your course-related questions to the [Ask the Instructor](#) discussion topic. This allows other students to benefit from your question as well.

Questions of a personal nature can be directed to your instructor or your TA.

Instructor: Kayleigh Swanson

keswanso@uwaterloo.ca

Your instructor checks email and the [Ask the Instructor](#) discussion topic frequently and will make every effort to reply to your questions within 48 hours, Monday to Friday.

learnhelp@uwaterloo.ca

Technical Support,

Include your full name, WatIAM user ID, student number,

Centre for Extended
Learning

and course name and number.

- Technical problems with Waterloo LEARN Technical support is available during regular business hours, Monday to Friday, 8:30 AM to 4:30 PM (Eastern Time).

[IST Knowledge Base: For Students](#)

Learner Support Services,
Centre for Extended
Learning

[Student Resources](#)

extendedlearning@uwaterloo.ca

- General inquiries
 - Examination information
- Include your full name, WatIAM user ID, student number, and course name and number.
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Course Description and Learning Outcomes

Course Description

Climate change is one of the most profound environmental and social issues affecting communities, nations and individuals. This course is an introduction to this global challenge, including its scientific underpinnings, history, potential impacts on natural systems and human societies around the world, and two societal responses: adaptation and greenhouse gas mitigation. Opportunities to develop sustainable resilient communities, as well as Canadian climate change policy responses will be highlighted.

The goal of this course is to provide students of any discipline with the fundamentals of climate change: both biophysical and human dimensions. This course will be delivered entirely online, and will provide students with an opportunity to hone science communication skills, explore sources of scientific uncertainty, political complexities, and equity implications of this global challenge.

Climate change is a pervasive and challenging phenomenon that can be viewed through a multitude of lenses. A scientific lens, for instance, reveals altered ecosystems and climatic tipping points while the lens of ethics raises the question of the right to develop and influence the well-being of others while doing so. By carefully laying the scientific foundations, we will explore creative, positive, nuanced visions of the future that are rooted in scientific understanding of earth systems but also capture (or at least begins a conversation about) core human values, such as equity, compassion, innovation, and connection. A wider variety of actors are increasingly taking action on climate change, or bear some responsibility for doing so, giving us the opportunity to analyze coordinated, effective responses that go beyond international negotiations.

This course is intended for undergraduate students of all backgrounds (arts, social sciences, and sciences) who wish to explore the biophysical and human dimensions of climate change. The course will also help students to hone their abilities to communicate potential solutions to others.

Learning Outcomes

Through a deeply interdisciplinary approach and with an emphasis on fostering effective communication skills, successful students in this course will:

- Demonstrate understanding of key elements of the climate system, and how these elements are being altered by the human emission of greenhouse gases.
- Carefully consider the impacts of climate change on both human and natural systems.
- Articulate the difference between climate change adaptation and mitigation, and understand a portfolio of actions that communities can take to respond to climate change.
- Understand the key issues at play in international climate change negotiations, as well as recent Canadian policy proposals.
- Investigate futures that are fundamentally sustainable, low-carbon, and resilient to climate change impacts.

This online course was developed by Sarah Burch, with instructional design and multimedia development support provided by the Centre for Extended Learning. Further media production was provided by Instructional Technologies and Multimedia Services.

About the Course Author

Course Author — Sarah Burch Associate Professor and Canada Research Chair



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Sarah Burch, PhD is an assistant professor in the Department of Geography and Environmental Management, University of Waterloo, Canada. Dr. Burch has published widely on transformative responses to climate change at the community scale, and innovative strategies for governing sustainability. She co-teaches a Massive Open Online Course called 'Climate Literacy: Navigating Climate Change Conversations', which reaches thousands of students in over 130 countries.

Dr. Burch received a PhD in resource management and environmental studies from the University of British Columbia, Canada (2009) and held a postdoctoral fellowship at the University of Oxford (2009-2011). She is a co-ordinating lead author in the second Assessment Report on Climate Change in Cities, and North American co-ordinator of the Earth System Governance network of Research Fellows. She was a contributing author to the fourth assessment report of the Intergovernmental Panel on Climate Change (winner of the Nobel Peace Prize in 2007) and was awarded a Banting Fellowship for her work on sustainability innovation. Her most recent book (2014) is entitled 'Understanding Climate Change: Science, Policy and Practice.'

Materials and Resources

Textbook

Required

1. Burch, S. L., & Harris, S. E. (2021). *Understanding Climate Change: Science, Policy, and Practice* (2nd ed.). Toronto: University of Toronto Press, Scholarly Publishing Division.

A free e-text version of this textbook is available through the [UW Library website](#).

For textbook ordering information, please contact the [W Store | Course Materials + Supplies](#).

For your convenience, you can compile a list of required and optional course materials through [BookLook](#) using your Quest userID and password. If you are having difficulties ordering online and wish to call the Waterloo Bookstore, their phone number is +1 519-888-4673 or toll-free at +1 866-330-7933. Please be aware that textbook orders **CANNOT** be taken over the phone.

Resources

- Library services for [Co-op students on work term and students taking online courses](#)

Grade Breakdown

The following table represents the grade breakdown of this course.

| Activities and Assignments | Weight (%) |
|--|------------|
| Quizzes (best 10 out of 11) | 40% |
| Discussion Summary Assignments | 20% |
| Assignment 1: Climate Change Impacts and Adaptation at the Community Scale | 20% |
| Assignment 2: Emissions and Mitigation at the Community Scale | 20% |

Note: The late penalty for written assignments (Discussion Summaries for Modules 1, 2, and 3; Assignments 1 and 2) is 5% per day.

Official Grades

Official Grades and Academic Standings are available through [Quest](#).

University Policies

Submission Times

Please be aware that the University of Waterloo is located in the **Eastern Time Zone** (GMT or UTC-5 during standard time and UTC-4 during daylight saving time) and, as such, the time that your activities and/or assignments are due is based on this zone. If you are outside the Eastern Time Zone and require assistance with converting your time, please try the [Ontario, Canada Time Converter](#) .

Short-Term Absences

Review the University of Waterloo's [Accommodations](#) policy for more details.

Additionally, undergraduate students have the option to self-declare a short-term absence during the formal lecture period by following the [Undergraduate student short-term absences](#) process outlined by the Registrar's Office.

Please follow the instructions above and contact your instructor for applicable accommodations.

Academic Integrity

In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect, and responsibility. **If you have not already completed the online tutorial regarding academic integrity you should do so as soon as possible.** Undergraduate students should see the [Undergraduate Academic Integrity Module](#) and graduate students should see the [Graduate Students and Academic Integrity](#) website.

Proper citations are part of academic integrity. Citations in CEL course materials usually follow CEL style, which is based on APA style. Your course may follow a different style. If you are uncertain which style to use for an assignment, please confirm with your instructor or TA.

For further information on academic integrity, please visit the [Office of Academic Integrity](#).

Turnitin

Turnitin.com: Text matching software (Turnitin®) may be used to screen assignments in this course. Turnitin® is used to verify that all materials and sources in assignments are documented. Students' submissions are stored on a U.S. server, therefore students must be given an alternative (e.g., scaffolded assignment or annotated bibliography), if they are concerned about their privacy and/or security. Students will be given due notice, in the first week of the term and/or at the time assignment details are provided, about arrangements and alternatives for the use of Turnitin® in this course.

It is the responsibility of the student to notify the instructor if they, in the first week of term or at the time assignment details are provided, wish to submit the alternate assignment.

[Turnitin® at Waterloo](#)

Discipline

A student is expected to know what constitutes academic integrity to avoid committing an academic offence, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about "rules" for group work/collaboration, should seek guidance from the course instructor, academic advisor, or the undergraduate Associate Dean. For information on categories of offences and types of penalties, students should refer to Policy 71 - Student Discipline . For typical penalties, check Guidelines for the Assessment of Penalties .

Appeals

A decision made or penalty imposed under Policy 70 - Student Petitions and Grievances , (other than a petition) or Policy 71 - Student Discipline , may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to Policy 72 - Student Appeals .

Grievance

A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read [Policy 70 - Student Petitions and Grievances](#) , Section 4. When in doubt please be certain to contact the department's administrative assistant who will provide further assistance.

Final Grades

In accordance with [Policy 46 - Information Management](#) , Appendix A - Access to and Release of Student Information, the Centre for Extended Learning does not release final examination grades or final course grades to students. Students must go to [Quest](#) to see all final grades. Any grades posted in Waterloo LEARN are unofficial.

AccessAbility Services

[AccessAbility Services](#) , located in Needles Hall, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodation to lessen the impact of your disability, please register with AccessAbility Services at the beginning of each academic term and for each course.

Accessibility Statement

The Centre for Extended Learning strives to meet the needs of all our online learners. Our ongoing efforts to become aligned with the [Accessibility for Ontarians with Disabilities Act \(AODA\)](#) are guided by University of Waterloo accessibility [Legislation](#) and policy and the [World Wide Web Consortium's \(W3C\) Web Content Accessibility Guidelines \(WCAG\) 2.0](#) . The majority of our online courses are currently delivered via the Desire2Learn Learning Environment. Learn more about [Desire2Learn's Accessibility Standards Compliance](#) .

Use of Computing and Network Resources

Please see the [Guidelines on Use of Waterloo Computing and Network Resources](#) .

Copyright Information

UWaterloo's Web Pages

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Respect the copyright of others and abide by all copyright notices and regulations when using the computing facilities provided for your course of study by the University of Waterloo. No material on the Internet or World Wide Web may be reproduced or distributed in any material form or in any medium, without permission from copyright holders or their assignees. To support your course of study, the University of Waterloo has provided hypertext links to relevant websites, resources, and services on the web. These resources must be used in accordance with any registration requirements or conditions which may be specified. You must be aware that in providing such hypertext links, the University of Waterloo has not authorized any acts (including reproduction or distribution) which, if undertaken without permission of copyright owners or their assignees, may be infringement of copyright. Permission for such acts can only be granted by copyright owners or their assignees.

If there are any questions about this notice, please contact the University of Waterloo, Centre for Extended Learning, Waterloo, Ontario, Canada, N2L 3G1 or extendedlearning@uwaterloo.ca (<mailto:extendedlearning@uwaterloo.ca>).

University of Waterloo

[Credits and Copyright \(/d2l/common/dialogs/quickLink/quickLink.d2l?ou=905001&type=content&rcode=uWaterloo-460859\)](#)