

GEOG 2133A – Climate Change Section 001 Fall 2021

1. Course Information

ClassroomTime:

2 hours Asynchronous Online (This requires a stable internet connection and a laptop or computer).

1 hour in person Thursday 2:30-3:30 pm UCC 56 (attendance is mandatory)

Contact Information:

Instructor team:	Dr. Katrina Moser	Alyssa Aglipay (TA)	Cailee Welch (TA)
Primary method of contact:	Forums and Email: This term we will be using Forums in Owl for questions regarding the class. The system is highly catered to getting you help fast and efficiently from classmates, the TA, and myself. I encourage you to send your questions to the whole class, as many questions you have so will others. If you have a personal matter to discuss please email me or the TAs directly. Please put Geog. 2133 in the subject line.		
Emails	kmoser@uwo.ca	aaglipa@uwo.ca	cwelch22@uwo.ca

Office hours will be held remotely using Zoom. A link for the meetings will be available on Owl and a waiting room will be used to allow students to enter one at a time. Alyssa will hold office hours on Wednesdays from 10-11am and Cailee will hold office hours on Thursdays from 1-2pm. Dr. Moser is available by appointment; please use email to make office hour appointments.

2. Course Description

Course Description

Climate change is one of the most important environmental issues that we face today, and it will have consequences for everyone, although like the global pandemic those consequences will not be evenly distributed. This course examines the processes that underlie natural and human-induced climate change at global and regional scales and describes climates that have existed in the past and those projected to occur in the future. We also examine the impacts of climate change on the physical and human environment. We will discuss options that may be used to address climate change and their linkage to the physical basis of climates. The course is taught from a physical scientist's perspective – with an emphasis on how systems work (processes), use of the scientific method, collection and interpretation of data and development and use of numerical models to represent physical processes. The course is an opportunity to explore your role in climate change now and in the future.

Course weight: 0.5

Prerequisite checking is the student's responsibility

Senate Regulations

Senate Regulations state, “unless you have either the requisites for this course or written special permission from your Dean to enroll in it, you will be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisites.”

3. Course Format and Objectives

General Format

This is a blended course meaning it has online and in-person components. There are many types of blended courses; this course is a *flipped* course. In a traditional class students learn fundamental concepts in the classroom through lectures and build on that knowledge outside of the classroom. In a flipped course students learn fundamental knowledge prior to class and in class expand on their knowledge through activities and discussion with the instructor. It is critical (and mandatory) to come to class and to review the weekly online materials prior to the in-person class.

Lectures

Lectures will be provided on Owl through videos. There will be activities interspersed between videos to reinforce what you are learning. When listening to the lectures avoid distractions – turn off all social media and make sure to take notes. This summer I took an online course and I found it helpful to review what I considered to be the most important parts of each lecture.

Classroom Culture of Participation

This course requires active participation from students, both for assessment, and to enhance the learning experience of the entire class. Active learning benefits students by supporting higher-level learning and improves retention of material (M.J. Prince, 2004). Participation will be graded, and there are formal and informal expectations of involvement.

Please come to class prepared to be involved and to be respectful to your classmates and the instructor team. Derogatory or offensive remarks and responses are not acceptable, nor are they effective forms of academic debate.

Participation is worth 10% of your grade and will be based on attendance in class (attend 80% (or 10 of 12) of classes for 5%) and participation on the discussion forums (5 posts on 5 different weeks for 5%).

Course Materials

All course material will be posted to OWL: <http://owl.uwo.ca>. Any changes will be indicated on the OWL site and discussed with the class. There is no textbook for this course.

Google Chrome or Mozilla Firefox are the preferred browsers to optimally use OWL; update your browsers frequently. Students interested in evaluating their internet speed, please click

[here](#). Using the right browser is important, especially when using different features integrated with OWL

If students need assistance, they can seek support on the [OWL Help page](#). Alternatively, they can contact the [Western Technology Services Helpdesk](#). They can be contacted by phone at 519-661-3800 or ext. 83800.

Course Learning Outcomes

After successfully completing Geography 2133B, students will be able to:

1. understand the principles of Earth's climate system;
2. describe causes for natural variability of climate and appreciate the data sources and techniques used to assess past climate variability;
3. know the human impact on climate and its consequences;
4. understand the interrelated nature of climate with the atmosphere, hydrosphere, biosphere, lithosphere and cryosphere;
5. assess scientific data on climate;
6. synthesize and communicate climate change information;
7. make informed decisions related to climate change;
8. be informed and prepared to promote change from local to global scales

4. Acquired Skills

Knowledge Skills

- ✓ Develop knowledge and critical understanding of the fundamental characteristics, processes, temporal changes and landscapes of social and biophysical systems and their interactions.
- ✓ Demonstrate informed awareness of geographical diversity through knowledge of different places and understanding of the processes that shape them spatially and over time.
- ✓ Combine breadth of knowledge of Geography with specialized understanding in selected sub-fields.
- ✓ Relate specialized understanding of the geography of bio-physical systems to knowledge and practices in environmental and natural sciences.
- ✓ Synthesize and evaluate geographical information from diverse sources, including geo-spatial data.
- ✓ Analyze real-world problems and policy applications using geographical concepts, skills and understanding.
- ✓ Communicate geographic ideas and understanding effectively to a variety of audiences in writing, orally, and graphically.

Geographical Skills

- ✓ Map, remote sensing images and geo-spatial data interpretation and analysis.
- ✓ Spatial thinking, spatial analysis & spatial processes of human and/or environmental processes. (e.g. cultural, social, political, economic, scientific)

Generic Skills

- ✓ Literature and secondary data sources: information search and retrieval, meta-analysis of published data, synthesis of information sources and literature, annotated bibliographies.
- ✓ Critical and reflective reading, listening, thinking.
- ✓ Writing – education and practice in writing essays, reports, notebooks.
- ✓ Oral communication/presentation: -structured class discussions (seminars, small-group interaction, debates), individual and group presentations.

5. Course Content and Schedule

Week	Dates	Topic	Reminders
1	Sept 8-10	Introduction	
2	Sept 13	Framework and Underlying Principals	Assignment 1: Handout
3	Sept 20	Climate Change: Overview	Video: Thin Ice
4	Sept 27	The Earth's Climate	
5	October 4	Atmospheric and Oceanic Circulation	Assignment 1 Due Oct. 4 at 5:00pm
6	October 12	The Greenhouse Effect and Carbon Cycle	Introduction to the Climate Change Challenge (CCC)
7	October 18	Radiative Forcings and Feedbacks	CCC Starts!!
8	October 25	Emissions, Projections and Models	
9	November 1	Reading Week	N/A
10	November 8	Climate Proxies and Archives	CCC Ends Nov. 5; Voice Threads are due Nov. 8 at 5:00pm
11	November 15	Lessons from the Past	Assignment 2: Handout
12	November 22	Looking to the Future	
13	December 3	Addressing Climate Change	Assignment 2 Due Dec. 3 at 5:00pm
14	Dec. 6-8	The Last Word	Reflective Journal Due Dec. 6 at 5:00pm

5. Communication

- Students should check the OWL site every 24 – 48 hours.
- A weekly update will be provided on the OWL announcements.
- Students should email their instructor(s) and teaching assistant(s) for personal issues. Students should use forums on OWL for questions on course content and logistics. Students should post all

course-related content on the discussion forum so that everyone can access answers to questions; the discussion forums will be monitored daily by instructors or teaching assistants

- ☒ For communication, the centrally administered **e-mail account** provided to students will be considered the individual’s official university e-mail address. It is the responsibility of the account holder to ensure that e-mail received from the University at his/her/they official university address is attended to in a timely manner. You can read about the privacy and security of the UWO email accounts [here](#).
- ☒ Emails and forums will be monitored daily; students will receive a response within 2 business days. Remember that anyone can respond to a question on forums in Owl. This is a great learning opportunity and using Forums ensures accurate information about the course and course content.

6. Evaluation

Evaluation

The material covered in lectures including assigned readings and assignments will be evaluated in short in-class quizzes and a final exam. Marking schemes will be used to assess answers to assignments and exams. Partial marks are awarded for incomplete answers.

Summary

To pass the course students must complete at least 81% of the course work and achieve 60% on the final exam.

Evaluation Components	Percentage of Course Grade	Assignment Due Dates
Assignment 1	10	Oct. 4 at 5:00pm
Assignment 2	10	Dec. 3 at 5:00pm
Climate Change Challenge	20	Nov. 8 at 5:00pm
Module Quizzes	20	Every Friday starting Sept. 17 until Dec. 3 (open 24 hours; you have one hour in the 24 hour period to write the quiz – see Course Content Week 2 on OWL for more explanation on quizzes)
Reflective Journal	10	Dec. 6 at 5:00pm
Participation	10	Throughout course
Final Exam	20	TBD

1. Marks as posted by the course instructor are considered provisional until approved by the Department Chair. Final marks are received from the Registrar; errors may be corrected through use of a Marks Revision Form.
2. Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.
3. No electronic devices will be allowed during test and examinations

- All assignment instructions and handouts will be posted under assignments on OWL. All assignments are due at 5:00 pm EST unless otherwise specified.
- Written assignments will be submitted to Turnitin on OWL.
- Students will have unlimited submissions to Turnitin.
- Rubrics will be used to evaluate assessments and will be posted with the instructions.
- After an assessment is returned, students must wait 24 hours to digest feedback before contacting their evaluator regarding their concerns. You must submit your concern in writing. To ensure a timely response, reach out within 7 days.

Click [here](#) for a detailed and comprehensive set of policies and regulations concerning examinations and grading. The table below outlines the University-wide grade descriptors.

A+	90-100	One could scarcely expect better from a student at this level
A	80-89	Superior work which is clearly above average
B	70-79	Good work, meeting all requirements, and eminently satisfactory
C	60-69	Competent work, meeting requirements
D	50-59	Fair work, minimally acceptable
F	below 50	Fail

Information about late or missed evaluations:

For all assessments worth 10% or more medical academic accommodation is required. Documentation must be submitted by the student directly to the appropriate Faculty Dean's office. It will be the Dean's office that will determine if accommodation is warranted.

- Late assessments without illness self-reports will be subject to a late penalty 10%/day
- Late assessments with illness self-reports should be submitted within 24 hours of submission of the last illness self-report
- An assessment cannot be submitted after it has been returned to the class; the weight will be transferred to the final exam. **However, it should be noted that students must complete 81% of the course assessments to pass the course.**

Grades will not be adjusted on the basis of need. It is important to monitor your performance in the course. Remember: *You* are responsible for your grades in this course.

Students are responsible for material covered in the lectures as well as activities and assignments. Students are expected to attend class.

7. Accommodation Policies

Students with disabilities work with Accessible Education (formerly SSD) which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The accommodation policy can be found here: [Academic Accommodation for Students with Disabilities](#).

Academic Consideration for Student Absence

Students will have up to two (2) opportunities during the regular academic year to use an on-line portal to self-report an absence during the term, provided the following conditions are met: the absence is no more than 48 hours in duration, and the assessment for which consideration is being sought is worth 30% or less of the student's final grade. Students are expected to contact their instructors within 24 hours of the end of the period of the self-reported absence, unless noted on the syllabus. Students are not able to use the self-reporting option in the following circumstances:

- for exams scheduled by the Office of the Registrar (e.g., December and April exams)
- absence of a duration greater than 48 hours,
- assessments worth more than 30% of the student's final grade,
- if a student has already used the self-reporting portal twice during the academic year

If the conditions for a Self-Reported Absence are *not* met, students will need to provide a Student Medical Certificate if the absence is medical, or provide appropriate documentation if there are compassionate grounds for the absence in question. Students are encouraged to contact their Faculty academic counselling office to obtain more information about the relevant documentation.

Students should also note that individual instructors are not permitted to receive documentation directly from a student, whether in support of an application for consideration on medical grounds, or for other reasons. **All documentation required for absences that are not covered by the Self-Reported Absence Policy must be submitted to the Academic Counselling office of a student's Home Faculty.**

For Western University policy on Consideration for Student Absence, see

[Policy on Academic Consideration for Student Absences - Undergraduate Students in First Entry Programs](#)

and for the Student Medical Certificate (SMC), see:

http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf.

Religious Accommodation

Students should consult the University's list of recognized religious holidays, and should give reasonable notice in writing, prior to the holiday, to the Instructor and an Academic

Counsellor if their course requirements will be affected by a religious observance. Additional information is given in the [Western Multicultural Calendar](#).

8. Make-up Examinations

Makeups will be granted with approved documentation only. All documentation for missed exams must be provided to the Academic Counselling Office within 48 hours of the scheduled exam, otherwise the instructor will assign a grade of zero.

The format and content of make-ups may differ substantially from the scheduled test or examination.

9. Use of Electronic Devices

iClickers will be used in this course to ask questions and keep track of attendance. You will need to upload the free software and be prepared to use by Sept. 16. Student's privacy is protected in terms of data gathered. The data gathered will be used to help instructors to improve teaching and to keep track of attendance. Data gathered will not be used for research purposes without written permission of the student. You can find more information about iClickers and how to use them at https://presswestern.uwo.ca/students_and_audience/index.html. Allowing others to use your iClicker is not allowed since the data gathered is used as part of the student's evaluation. Be aware that students involved in misuse of a clicker may be charged with a scholastic offence.

10. Academic Offences

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence.

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

11. Continuity of Education Plan (in-person class pivoting to online learning)

In the event of a COVID-19 resurgence during the course that necessitates the university to direct courses move away from face-to-face interaction, all remaining course content will be delivered entirely online, either synchronously (i.e., at the times indicated in the timetable) or asynchronously (e.g., posted on OWL for students to view at their convenience). The grading scheme will **not** change. Any remaining assessments will also be conducted online as determined by the course instructor.

12. How to Be Successful in this Class:

Students enrolled in this class should understand the level of autonomy and self-discipline required to be successful.

1. Be engaged, participate and be disciplined and organized. Plan to spend ~8 hours per week on each course.
2. Invest in a planner or application to keep track of your courses. Populate all your deadlines at the start of the term and schedule time at the start of each week to get organized and manage your time.
3. Make it a daily habit to log onto OWL to ensure you have seen everything posted to help you succeed in this class.
4. Follow weekly checklists created on OWL or create your own to help you stay on track.
5. Listen to lectures in a quiet place without distractions. Take notes as you go through the lesson material. Keeping handwritten notes or even notes on a regular Word document will help you learn more effectively.
6. Connect with others. Try forming a study group and try meeting on a weekly basis for study and peer support.
7. Do not be afraid to ask questions. If you are struggling with a topic, check the online discussion forums, post a question or contact your instructor(s) and or teaching assistant(s).
8. Reward yourself for successes. It seems easier to motivate ourselves knowing that there is something waiting for us at the end of the task.

13. Western's Commitment to Accessibility

The Department of Geography and Environment strives at all times to provide accessibility to all faculty, staff, students and visitors in a way that respects the dignity and independence of people with disabilities.

Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 519-661-2147 for any specific question regarding an accommodation. [Information regarding accommodation of exams](#) is available on the Registrar's website.

More information about "[Accessibility at Western](#)" is available.

14. **Information on COVID-19**

Masking Guidelines

Students will be expected to wear triple layer, non-medical, paper masks at all times in the classroom as per University policy and public health directives. Students who are unable to wear a mask must seek formal accommodation through Western Accessible Education, and present medical documentation.

Students are not permitted to eat or drink while in class to ensure masks stay in place. Students will be able to eat and drink outside of the classroom during scheduled breaks.

Students unwilling to wear a mask as stipulated by Western policy and public health directives will be referred to the Dean, and such actions will be considered a violation of the student Code of Conduct.

Course Absences due to Daily COVID Screening Questionnaire

Missed assessments (e.g., presentations, essays, quizzes, tests, midterms, etc.) require formal academic considerations (typically self-reported absences and/or academic counselling). Mental Health

If you or someone you know is experiencing distress, there are several resources here at Western to assist you. Please visit Western's Health and Wellness website for more information on mental health resources.

15. Support Services

Western's Support Services
Student Development Centre

16. Important Dates

September 8: Classes resume

September 16: Last day to add a first term half course

October 11: Thanksgiving Holiday – Department Office Closed

November 1 to November 7: Fall Reading Week (No classes; Department Office open)

November 12: Last day to drop a first term half course without penalty

November 30: Last day to drop a full course without penalty

December 8: Classes end

December 9: Study day

December 10-21: Examination Period