

GEOG 2133b – Climate Change Section 001 Winter 2019

1. Course Information

Classroom Location:

Tuesday, 1:30-3:30 pm, MC 105B

Thursday, 2:30-3:30 pm, MC 105B

Contact Information:

Instructor team:	Dr. Katrina Moser	David Zilkey (TA)	Kevin Ng (TA)
Primary method of contact:	Piazza Piazza is catered to getting you help fast and efficiently from classmates and the instructor team. Rather than emailing your questions to our teaching team, we encourage you to post your questions on Piazza. Public messages can be answered by anyone in the class including the instructors. Private messages will be seen by the instructor team. Our class page can be found at https://piazza.com/uwo.ca/winter2019/geog2133b/home		
Office	SSC Rm. 2407	SSC Rm. 2308	SSC Rm. 2304
Office Hours	By appointment	Tuesdays 3:30-4:30	Thursdays 1:30-3:30
Phone	519-661-2111 x 80115		
Email	kmoser@uwo.ca	dzilkey@uwo.ca	kng342@uwo.ca

2. Course Description



Course Description

Climate change is one of the most important environmental issues that we face today. This course examines the processes that underlie natural and human-induced climate change at global and regional scales and describes the resultant climates that have existed and those projected to occur in the future. We also examine the impacts of past and future 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.

Course weight: 0.5

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. Textbook (required and free!)

SimUtext Climate Change Section – Available free online. Students have been emailed instructions to access this online textbook. The textbook is interactive and will help students understand course content. Students will be required to read the textbook and complete questions in the textbook as part of their participation grade. Questions for quizzes and exams will be, in part, taken from the SimUtext.

4. Course Format

General Format

Instruction occurs during two classes (a one and a two hour time slot) and will be a mix of lectures, videos, in-class activities, quizzes and group work. It is imperative to be at all classes.

Lectures

Lecture notes for each week will be provided on Owl. Please be aware that the notes are meant as a guide for the lecture, and will also provide figures and charts important for the course. It is important to be in class to hear the lectures, understand the figures and graphs and actively participate in the class discussions. Having a laptop in class is encouraged, however, using it to do e-mail or other non-class related activities is strongly discouraged.

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. Lectures will be interspersed with brainstorming, activities, work periods and discussion.

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.

5. 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 climate change 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.

6. Evaluation

Evaluation

The material covered in lectures including assigned readings and assignments will be evaluated in short in-class quizzes, a midterm and a final exam. A mixed exam format (e.g. multiple choice, fill-in-the-blanks, short answer, diagram questions) will be used. Marking schemes will be used to assess answers to assignments and exams. Partial marks are awarded for incomplete answers.

Summary

Assignments (2)	20%
Quizzes (2)	10%
Climate Change Challenge	10%
Midterm	20%
Final exam	30%
Participation (iClickers 5% and SimUText 5%)	10%
Total	100%

Notes:

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

Assignment Summaries

Further details will be provided as each assignment is introduced in class.

Assignments (20%)

Students will be required to complete two assignments that may require written answers and graphing and calculations. Time will be given in class for the completion of the assignment but the assignment will require work outside of class time as well.

Climate Change Challenge (10%)

Students will determine their own carbon footprint and then take actions to reduce it. The assignment will involve documenting the student's climate change challenge journey.

Participation (10%)

Participation will be determined based on iClicker responses (5%) and SimUtext questions (5%). In each class iClickers will be used to answer questions and an exit ticket. At least 80% of the iClicker questions will need to be answered in order to get 5/5. SimUtext questions must be answered by the due date and a grade is assigned based on the score the student receives for the answered questions.

Grade Breakdown and Explanation

90-100	Excellent. You have surpassed my expectations (very rare)
80-89	Very good. You have fulfilled my expectations
70-79	Good. Expectations are mostly fulfilled with weak areas.
60-69	Satisfactory. There are problems such as confusing writing or expectations are not fulfilled.
50-59	Less than satisfactory. There are major problems.
< 50	Unsatisfactory. Task not fulfilled.

Students are responsible for material covered in the lectures as well as the assigned chapters/sections in the text. Students are expected to attend class.

Policy on Late Assignments:

For Western University Policy on Accommodation for Medical Illness and a downloadable SMC see [Policy on Accommodation for Illness](#).

Students seeking academic accommodation on medical grounds for any missed tests, exams, participation components and/or assignments worth 10% or more of their final grade must apply to the Academic Counselling office of their home Faculty and provide documentation. Academic accommodation cannot be granted by the instructor or department.

For non-documented medical absences or non-medical absences, late assignments will be given a penalty of five percent per day from the final grade for the assignment for a maximum of 5 days. After 5 days the assignment will not be assessed resulting in a grade of 0. Students looking for a change in a deadline are asked to submit a request to the course instructor as soon as possible.

For assignments worth less than 10%, the student must submit a request for accommodation to the instructor. Medical documentation will not be required.

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.

7. Make-up Examinations

Makeups will be granted with approved documentation only. All documentation for missed exams must be provided the Academic Counselling Office and Instructor within 48 hours of the scheduled exam. For missed exams, you must take your documentation to Academic Counselling within 48 hours of the 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.

8. Use of Electronic Devices

No electronic devices will be allowed during tests and examinations.

9. 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>).

10. Western's Commitment to Accessibility

The Department of Geography 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.

11. Medical Issues

The University recognizes that a student's ability to meet his/her academic responsibilities may, on occasion, be impaired by medical illness. The Student Services website provides greater detail about the University's policy on medical accommodation. This site provides links the necessary forms. In the event of illness, you should contact Academic Counselling as soon as possible. The Academic Counsellors will determine, in consultation with the student, whether or not accommodation should be requested. They will subsequently contact the instructors in the relevant courses about the accommodation. Once the instructor has made a decision about

whether to grant an accommodation, the student should contact his/her instructors to determine a new due date for tests, assignments, and exams.

Students must see the [Academic Counsellor](#) and submit all required documentation in order to be approved for certain accommodation.

12. 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.

13. Support Services

[Student Support Services](#)

[Student Development Services](#)

14.Course Schedule

SCHEDULE: Assignment and quiz dates are fixed, but the lecture schedule may change periodically – double check OWL for updates.

Lecture	Date	Lecture Topic	Assignment/ Quizzes
1	Jan 8 (Tu)	Introduction – Class Introductions The Syllabus Course Introduction Introduction to iClickers, Piazza, SimUText	
2	Jan 10 (Th)	Climate In the News 1 Climate Change – What do you know?	Climate Change Jeopardy
3	Jan 15 (Tu)	Overview: Climate and Climate Change, Global Environmental Systems, Climate data: An Introduction to Climate Change	Video: Thin Ice
4	Jan 18 (Th)	Why does climate change matter?	SimUText Exercise 1
5	Jan 22 (Tu)	Detecting Climate Change: Earth's Climate Assignment 1: Determining Fact vs Fiction	Assignment 1 Handout
6	Jan 24 (Th)	Detecting Climate Change: Earth's Climate:	SimUText Exercise 1 DUE
7	Jan 29 (Tu)	Detecting Climate Change: Proxies and Archives In Class Activity	SimUText Exercise 2
8	Jan 31 (Th)	Detecting Climate Change: Proxies and Archives In Class Activity	Assignment 1 Due
9	Feb 5 (Tu)	Earth's Climate	Assignment 2: Handout SimUText Exercise 2 DUE SimUText Exercise 3
10	Feb 7 (Th)	Earth's Climate	
11	Feb 12 (Tu)	Quiz 1 Climate Models	Quiz 1
12	Feb 14 (Th)	Greenhouse Gases and Biogeochemical Cycles and the Carbon Foot Print	SimUText Exercise 3 DUE

Lecture	Date	Lecture Topic	Assignment / Quizzes
	Feb 20-24	Reading Week	
12	Feb 26 (Tu)	Mid Term Exam	Mid Term Exam
13	Feb. 28 (Th)	The Carbon Footprint and the Climate Change Challenge	The Climate Change Challenge
17	Mar 5 (Tu)	Greenhouse Gases and Biogeochemical Cycles Assignment 2: Emissions, Carbon Concentration and	Assignment 2: Handout
18	Mar 7 (Th)	Assignment 2 Tutorial and Work Period	
19	Mar 12 (Tu)	Humans and Climate Change: From the Past	SimUText Exercise 4
20	Mar 14 (Th)	Humans and Climate Change: Projections of Future Climates	Assignment 2 DUE
21	Mar 19 (Tu)	Tipping Points and Climate Surprises	SimUText Exercise 4 DUE SimUText Exercise 5
22	Mar 21 (Th)	Impacts of Altered Climates: The Past and Future In-Class Activity: Sea Level Rise	The Climate Change Challenge Due
23	Mar 26 (Tu)	Impacts of Altered Climates: The Past and Future Quiz 2	Quiz 2
24	Mar 28 (Th)	Addressing Climate Change	SimUText Exercise 5 DUE
25	Apr 4 (Tu)	Addressing Climate Change In-Class Activity: TBD	