

McGill University Department of Geography
GEOG 205 Global Change: Past, Present and Future 2016

This course examines the changes that have occurred in the global environment, through the last 2 million years (Quaternary) to the present day, and the possible changes in this century associated with the greenhouse effect, climate change and land use change. The course has three components:

1. Present-day climate & climate change: how the present-day patterns of climate and vegetation are generated and distributed, basics of climate change;
2. Changes in the Earth's climate and its causes, as demonstrated by vegetation and landscapes during the last 2 million years (through the last "Ice Age" to the recent past); the ways in which we study these changes; can these past variations be used as evidence against global warming or human's role in it?
3. Human impacts on environments in the past, present and future - with a continental and global focus; a broad overview of key issues in global environmental change from a geographic perspective.

Lectures are Tuesday and Thursday, 16:05-17:25 hr in Maass Chemistry Building 112.
This course has no prerequisites, but is a science course and will be challenging.

REQUIREMENTS

Readings:

Required readings will be available online or posted on myCourses.

Lecture slides and any supporting texts will be posted on myCourses.

RECOMMENDED READING

Imbrie, J. and K.P. Imbrie, 1979. *Ice Ages: Solving the Mystery*. Harvard University Press, Cambridge, MA. A hard copy of this book is on reserve at the Humanities and Social Sciences Library in the McLennan-Redpath Library Complex.

COURSE EVALUATION

The final grade for the course will be composed of the following:

Two term tests, Feb 16 (25%), Mar 15 (25%) at 18:00-19:30 hr	50%
Two assignments (10% each)	20%
Final exam (centrally scheduled during exam period)	30%

The final exam is cumulative. Formats of all exams will have a variety of questions, from true and false to comprehensive essay.

Students must sit both exams, and complete both assignments to pass this course.

INSTRUCTORS - PROF. GAIL CHMURA, PROF. GRAHAM MACDONALD, AND GUEST LECTURERS

To contact Prof. Chmura use the address below and put GEOG205 in the subject line.

office Room 628, Burnside Hall; (514) 926-6854, gail.chmura@mcgill.ca

Office hours: Tuesdays 11:00 am-12:00 pm (or by appointment).

To contact Prof. MacDonald use the address below and put GEOG205 in the subject line.

office Room 627, Burnside Hall; (514) 398-4828, graham.macdonald@mcgill.ca

Office hours: Fridays 11:00am to 12:00pm (or by appointment)

Teaching Assistants: Marc-Olivier Brault, Siya Shao, Michael Templeton and Melissa Ward should be contacted at GEOG205TA@gmail.com (please write to the TAs at this address only).

SCHEDULE CONFLICTS

In the past, some students have signed up for this class at the same time as another class or lab, and missed most lectures. This is illegal and cannot be used as an excuse. We expect that if you will miss a class that you will make alternate arrangements to catch up on material or find out vital announcements.

CLASS ETIQUETTE

Out of common courtesy, your instructors request a few things of you. While students are in class, they are expected to give their full attention to the professor or the film, if one is being shown. Reading, talking, sleeping, and leaving before the end of class are impolite. If you know before class that you will have to leave early sit towards the back near the door so as not to disrupt the class. Likewise, if you arrive late, please enter from the back of the class.

STUDENTS WITH DISABILITIES

McGill's Office for Students with Disabilities offers support if you feel that difficulties and impairments are hindering your academic performance while at McGill or if you require assistance with access. Contact them regardless of whether the difficulties you are experiencing are permanent or temporary (514-398-6009, <http://www.mcgill.ca/osd>). The assistance offered at the OSD targets a wide variety of situations, from medical diagnoses to mental health issues and anxiety disorders, and also includes long term support to accompany students with Learning Disabilities, ADD or ADHD, Asperger's and autism. The office is located on the lower floor for the Redpath Library. Its entrance is accessible from MacTavish, underneath the arch, across from Service Point.

LATE ASSIGNMENTS

Unless you have received permission to miss the deadline (e.g., you have a medical excuse or other crisis) your score will be reduced by 10 points for every day it is late, including weekends.

MISSED EXAM

A make-up exam will be available only to those students who have valid reasons for missing the exam. These include medical problems (a doctor's note is necessary) and family emergencies. If you have missed the exam, contact Prof Chmura as soon as possible. We cannot provide a make-up for the final exam; this is arranged by the University.

*McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see <<http://www.mcgill.ca/integrity>> for more information). Although you may discuss your assignment questions, preparation of answers must be an individual effort. **Your written material must be your own and unique.***

In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded.

For information on university and department policies for student assessment, please go to <http://www.mcgill.ca/geography/studentassessment>

In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change.

Additional policies governing academic issues which affect students can be found in the McGill Charter of Students' Rights.

**GEOG 205 Global Change: Past, Present and Future
Tentative Course Schedule winter term 2016**

Date	Topic	Lecturer
Jan 12	Introduction	MacDonald
Jan 14	<i>Film: The Great Global Warming Swindle</i>	TA Brault
Jan 19	How does climate vary with place and time?	Chmura
Jan 21	The distribution of land cover and land use: biomes vs anthromes?	Chmura/MacDonald
Jan 26	Intro to geologic time, dating techniques and critical changes in recent Earth history (is there an Anthropocene?)	Chmura/MacDonald
Jan 28	Ice Ages I: Evidence on the Land; Film: the Recent Ice Age	Chmura
Feb 2	Ice Ages II : Evidence in the ocean and ice; Film: Coring the Greenland Ice Cap	Chmura
Feb-04	Changes in the levels of land and sea (assignment 1 distributed)	Chmura
Feb-09	Enormous lakes and serious erosion: the story of the melting ice	Chmura
Feb-11	Rapid climate change!: The "Younger Dryas"	Chmura
Feb-16	Exam 1 (covers materials up to Feb 9 only) <i>NOTE EVENING TIME</i>	Chmura/MacDonald
Feb-18	Slow climate change: the "Climatic Optimum" or "Hypsithermal" (assignment 1 due)	Chmura
Feb-23	Megafaunal Extinctions and associated climate change	Chmura/Brault
Feb-25	Film: Land of the Mammoth	Chmura
Mar-01	Reading week	--
Mar-03	Reading week	--
Mar-08	The "Medieval Warm Period" and the "Little Ice Age"	Chmura
Mar-10	ENSO Events - swinging between two extremes (assignment 2 distributed)	Price
Mar-15	Exam 2 (covers Feb 11 up to & including Mar 8) <i>NOTE EVENING TIME</i>	Chmura/MacDonald
Mar-17	Climate change impacts: What are they and why should we worry?	MacDonald
Mar-22	Global land use and cover change	MacDonald
Mar-24	Urbanization: Environmental challenges and solutions	Moser
Mar-29	Global change and the phosphorus cycle (assignment 2 due)	MacDonald
Mar 31	Global change and the nitrogen cycle	Moore
Apr 4	Global water resources I: How much water do we have?	Lehner
Apr 7	Global water resources II: How much water do we need?	Lehner
Apr 12	If there is an Anthropocene, when did it begin?	Chmura/MacDonald
Apr 14	Global change synthesis	MacDonald
Other important dates Tuesday, Jan 19 add/drop deadline		
Friday, April 15 is the last day of classes, April 18-29 is the final exam period.		