

Global Environmental Systems, GEOG1010-B

Carleton University
Department of Geography & Environmental Studies
Winter 2025

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Office Hours: Wednesdays (11:30am-12:30pm) or by appointment

COURSE DESCRIPTION

This course introduces the environmental processes and systems that shape the biophysical world around us. Students will explore how Earth's atmosphere, hydrosphere, lithosphere and biosphere are structured and interact to create the diverse climates, landforms, and ecosystems we find within Canada and around the world. We will discuss the profound impact humans have on local and global environmental systems.

PRECLUSIONS

Precludes additional credit for GEOG 1001/ENST 1001 (if taken before 2006-2007)

LEARNING OUTCOMES

The objectives of the course are to give you an overview of the physical environment surrounding you, and to prepare you for more advanced courses in this subject. The topics in this course are important to students interested in the biophysical sciences and to students who wish to understand the processes underlying many human, social and economic aspects of our environment and natural resources.

COURSE FORMAT

Lectures will follow the attached course outline. The schedule may require minor revisions to accommodate unexpected scheduling issues. The lectures will introduce and illustrate the major concepts in global environmental systems. Support material will be available on the course Brightspace site.

SCHEDULE

Lectures: Monday and Wednesday 1:05pm- 2:25pm

Lab sessions: - section B01: Wednesday 8:05pm-9:55pm
- section B02: Friday 11:35am-1:25pm
- section B03: Friday 2:35pm-4:25pm
- section B04: Thursday 2:35pm-4:25pm

Note the labs will run in the following order: B01→B04→ B02→B03

COURSE TEACHING ASSISTANT

Check Brightspace for TA contact information and office hours.

RECOMMENDED TEXTBOOK

Leaver, D. 2018 HOW THE EARTH WORKS: A Simplified View of Our Complex Planet. Open access textbook available Brightspace course page. © Text Copyright Darren Leaver 2018.

STUDENT RESOURCES AND COMMUNICATION

Office Hours, Email and Appointments

If you have questions pertaining to the lecture material, I encourage you to come to my office hours or to meet me at the end of class to make an appointment.

All questions about missed assignments, missed exams, and other practical concerns about the course should be directed to me by email. Emails will be responded to during business hours only. Please place the course number GEOG 1010 in the subject line. Private correspondence with the Instructor and Teaching Assistants should be through a Carleton email account (this is accessible in Brightspace).

Brightspace Course Site

The Brightspace course site of GEOG 1010 contains information on all aspects of the course. It includes partial outlines of lectures (not complete notes) and graphs or diagrams presented in class. You need to supplement these notes by attending the class lectures or by referring to the textbook. You will be able to access Brightspace course site and to download files on the first week of classes. If you are not able to login, please contact the course instructor. Follow this link to access the course Brightspace home page: [Homepage - GEOG1010B Global Environmental Systems \(LEC\) Winter 2025](#)

EVALUATION

Final marks in the course are based on your performance in five categories as follows:

Lecture Participation Questions	10%
Midterm Exam	25%
Lab assignments/Exercises	35%
Final Exam	30%

Standing in a course is determined by the course instructor subject to the approval of the Faculty Dean. This means that grades submitted by the instructor may be subject to revision. No grades are final until they have been approved by the Dean.

Lecture Participation Questions

To encourage and enable active student participation in lectures, this course requires the use of the iClicker app to answer the lecture participation questions.

Setting up iClicker Account:

1- Create your iClicker student account Go to <https://student.iclicker.com/#/login> or download the iClicker Student application on your smart device then select sign up option.

2- Sign up for a student iClicker free account. You should use your university email address and your Carleton University ID in the Student ID field. You might have to pay for a subscription (\$21.99 for a six-month subscription). Please don't pay for a subscription prior to our first class meeting.

3- You can join the class by using this link <https://join.iclicker.com/GJLY> OR Search with the following information to find this course and **add** it to your iClicker account:

Institution: Carleton University Faculty of Science

Course: GEOG1010: Global Environmental Systems

Lab exercises

There will be five lab assignments. The lab exercises are meant to complement the course material and to facilitate application and integration of knowledge gained from lectures and readings. The lab exercises will be posted on Brightspace at least one day ahead of their corresponding lab session. Please feel free to collaborate with others during the lab sessions to obtain common data, but please submit your own

individually written lab reports that contain your own analyses and answers to questions. The assignment reports must be received by the start of the lab period of the day on which they are due. If you arrive late to a laboratory period on an assignment due date, it will be considered late and will be penalized by -10% of the maximum assignment grade. Weekends count as 2 days.

Exams

Exams will cover lecture materials. Students who cannot attend on-campus assessments in person may apply to write their exams remotely, if they meet certain criteria. More information for instructors and students is available at <https://carleton.ca/ses/distance-exams/>.

Only students who have made prior arrangements with the instructor, or students who have contacted the instructor within 5 days of the missed midterm exam with a valid doctor's note explaining why they missed the exam will be permitted to write the make-up exam.

Deferred final exams, which must be applied for at the RO, are available ONLY if the student is in good standing in the course (a passing grade based on the assessments required and completed prior to the final exam).

COURSE POLICIES

Late Assignments

Late assignments will be penalized by subtracting 10% per day (including Saturday and Sunday) of the total value of the assignment. Students whose assignments are late because of a valid medical reason or family emergency will not be penalized, however, documentation from a family physician or counseling services will be required. If you are not able to hand your assignment directly to the Instructor or TA, you may email a copy of your work to demonstrate you have completed it on time (before the due date) and provide a hard copy (for marking) as soon as possible after that. Every student will be able to hand in any one assignment up to 12 hours late without penalty. Note that material handed-in via the departmental drop box will not be accepted, unless you make prior arrangements with the instructor or TA.

Missed Assignments or Exams

Students who fail to submit an assignment or write the midterm exam will receive an automatic grade of zero. The only exceptions will be for instances of significant illness or a family emergency. Students who are not able to write the final exam during the exam period must consult with *Exam Services* as soon as they are aware that they will miss the test.

Standards of Written Work

Any assignment submitted should be printed using *word processing software* and checked for spelling and grammar. The overall presentation quality of the assignments will be reflected in your grade.

ACADEMIC INTEGRITY

Academic integrity is a necessary foundation for all meaningful scholarly activity and verified instances of intellectual dishonesty will be dealt with in full accordance with the procedures laid out in Academic Integrity Policy. Additional information regarding what constitutes plagiarism may be found on Carleton University web site: <https://carleton.ca/secretariat/wp-content/uploads/Academic-Integrity-Policy-2021.pdf>

The University Senate defines plagiarism as “presenting, whether intentionally or not, the ideas, expression of ideas or work of others as one’s own.” This can include:

- reproducing or paraphrasing portions of someone else’s published or unpublished material, regardless of the source, and presenting these as one’s own without proper citation or reference to the original source;
- Examples of plagiarism include, but are not limited to:

- any submission prepared in whole or in part, by someone else, including the unauthorized use of generative AI tools (e.g., ChatGPT)
- submitting a take-home examination, essay, laboratory report or other assignment written, in whole or in part, by someone else
- using ideas or direct, verbatim quotations, paraphrased material, algorithms, formulae, scientific or mathematical concepts, or ideas without appropriate acknowledgment in any academic assignment
- using another’s data or research findings without appropriate acknowledgement
- submitting a computer program developed in whole or in part by someone else, with or without modifications, as one’s own
- failing to acknowledge sources with proper citations when using another’s work and/or failing to use quotations marks.”

Plagiarism is a serious offence which cannot be resolved directly with the course’s instructor. The Associate Dean of the Faculty conducts a rigorous investigation, including an interview with the student, when an instructor suspects a piece of work has been plagiarized. Penalties are not trivial. They can include a final grade of "F" for the course.

ACADEMIC ACCOMMODATION

As a student you may experience a range of mental health challenges that significantly impact your academic success and overall well-being. If you need help, please speak to someone. There are numerous resources available both on- and off-campus to support you. For more information, please consult <https://wellness.carleton.ca/>.

You may need special arrangements to meet your academic obligations during the term. For an accommodation request the processes are as follows:

Pregnancy obligation: write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the Equity Services website: <http://www.carleton.ca/equity/>

Religious obligation: write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details visit the Equity Services website: <http://www.carleton.ca/equity/>

Academic Accommodations for Students with Disabilities: The **Paul Menton Centre** for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your **Letter of Accommodation** at the beginning of the term, and no later than two weeks before the first in-class scheduled test or exam requiring accommodation (*if applicable*). After requesting accommodation from PMC, meet with me to ensure accommodation arrangements are made.

Please consult the PMC website for the deadline to request accommodations for the formally-scheduled exam (*if applicable*) at <http://www.carleton.ca/pmc/new-and-current-students/dates-and-deadlines/> You can visit the Equity Services website to view the policies and to obtain more detailed information on academic accommodation at <http://www.carleton.ca/equity/>

Survivors of Sexual Violence: As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and where survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: <https://carleton.ca/equity/sexual-assault-support-services>

Students representing Carleton University, Ontario or Canada (at academic or sports events):

I fully support students involved with organizations and teams that travel during the semester; however, with this privilege comes additional responsibility. You are responsible for providing formal documentation identifying the organization you represent and potential schedule conflicts with this course. In the event that you are travelling and unable to attend an exam, you must schedule a secondary exam before you depart. Without proper documentation, a missed exam will earn zero points.

Global Environmental Systems (GEOG1010)
Winter term 2025 Course Outline

Week	Lecture Class	Lab	Readings
Jan. 6-10	Introduction to Course The Sun, the Seasons & The Atmosphere	<i>NO LAB</i>	Course outline Page 47-58
Jan. 13-17	The Global Energy System Global Climate Change	Lab 1: Topographic Maps and Navigation (7%)	Page 59-70
Jan. 20-25	Atmospheric Circulation	Lab 1 (Cont'd)	Page 72-74 Page 77-96
Jan. 27-31	Water Cycle and Precipitation	Lab 2: Net Radiation at the Earth's Surface (7%) <i>Lab 1 is due at the beginning of your lab period</i>	Page 97-102
Feb. 3-7	Weather	Lab 2 (Cont'd)	Page 97-102
Feb. 10-14	Feb. 13: Weather (cont'd) Feb. 14: MIDTERM EXAM	Lab 3: Climate Data and Climate Change <i>Lab 2 is due at the beginning of your lab period</i>	
Feb. 17-21	Winter break, no classes.	Winter break, no classes.	
Feb. 24-28	Tectonic Plates Mass Movements	Lab 3 (Cont'd)	Page 154-174 Page 199-203 Page 230-239
March 3-7	Streams	Lab 4: Plate Tectonics (7%) <i>Lab 3 is due at the beginning of your lab period</i>	Page 203-210
March 10-14	Glaciers	Lab 4 (Cont'd)	Page 230-239
March 17-21	Soils	Lab 5: Geomorphic Interpretation Using Google Earth (7%) <i>Lab 4 is due at the beginning of your lab period</i>	
March 24-28	Soils (cont'd) Biogeography: Introduction, Individuals	Lab 5 (Cont'd)	
March 31-April 4	Biodiversity	<i>Lab 5 is due on April 4th 11:59pm.</i> <i>You will submit your lab 5 report online by uploading it to "Assignment 5 Dropbox" on Brightspace.</i>	
April 7-8	<i>NO CLASS</i>	<i>NO LAB</i>	
April	<i>FINAL EXAM</i>		