

Global Environmental Systems, GEOG1010-B

Carleton University
Department of Geography & Environmental Studies
Fall 2026

Kevin Hamdan, Ph.D.
Office: Loeb B354
Kevin.Hamdan@carleton.ca

Office Hours: Tuesdays (12:00pm-1:00pm) 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

None

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: Tuesday and Thursday 10:05am- 11:25am

Lab sessions:

- section A01: Thursday 7:05pm-8:55pm
- section A02: Thursday 2:35pm-4:25pm
- section A03: Thursday 4:35pm-6:25pm
- section A04: Thursday 11:35am-1:25pm
- section A05: Wednesday 9:35am-11:25am
- section A06: Wednesday 4:35pm-6:25pm
- section A07: Tuesday 2:35pm-4:25pm

Note the labs will run in the following order: A07→A05 →A06→ A04→A02→ A03→ A01

COURSE TEACHING ASSISTANT

Victoria Kotylak (VICTORIAKOTYLAK@cmail.carleton.ca). Office Hours: TBA
Tamim Ansar (TamimAnsar@cmail.carleton.ca). Office Hours: TBA
Brogahn Gauthier (BROGAHNGAUTHIER@cmail.carleton.ca). Office Hours: TBA
Liam French (LiamFrench@cmail.carleton.ca). Office Hours: TBA

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 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 - GEOG1010A Global Environmental Systems \(LEC\) Fall 2026](#)

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 have to pay for a subscription (\$21.99 for a six-month subscription).

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

Institution: Carleton University

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.

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/>.

Deferred final exams, which must be applied for at the RO, are available ONLY if the student is in good standing in the course. The course outline must stipulate any minimum standards for good standing that a student must meet to be entitled to write a deferred 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, the completion of the [Academic Consideration for Coursework form](#) is requested.

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 one week late without penalty.

Missed Exams

Students who fail to 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, however, the completion of the [Academic Consideration for Coursework form](#) is requested. 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.

GENERATIVE ARTIFICIAL INTELLIGENCE (AI)

AI use in this course

Students may use AI tools for basic word processing functions, including grammar and spell checking (e.g. Grammarly, Microsoft Word Editor, Copilot)

Documenting AI use

It is not necessary to document the use of AI for the permitted purposes listed above. If you have questions about a specific use of AI that isn't listed above, please consult your instructor.

Why have I adopted this policy?

This policy ensures that student voices and ideas are prioritized and authentically represented, maintaining the integrity of the work produced by students while allowing basic support to enhance clarity, correctness, layout and flow of ideas. The goal of adopting a limited use of AI is to help students develop foundational skills in writing and critical thinking by practicing substantive content creation without the support of AI.

Limitations: Students may not use AI for producing any part of their lab reports.

As our understanding of the uses of AI and its relationship to student work and academic integrity continue to evolve, students are required to discuss their use of AI in any circumstance not described here with the course instructor to ensure it supports the learning goals for the course.

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.

Student Mental Health

“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/>”

Instructors may also wish to list of some or all the following resources:

Emergency Resources (on and off campus)

- Suicide Crisis Helpline: call or text 9-8-8, 24 hours a day, 7 days a week.
- For immediate danger or urgent medical support: call 9-1-1

Carleton Resources

- Mental Health and Wellbeing: <https://carleton.ca/wellness/>
- Health & Counselling Services: <https://carleton.ca/health/>
- Paul Menton Centre: <https://carleton.ca/pmc/>
- Academic Advising Centre (AAC): <https://carleton.ca/academicadvising/>
- Centre for Student Academic Support (CSAS): <https://carleton.ca/csas/>
- Equity & Inclusivity Communities: <https://carleton.ca/equity/>

Off Campus Resources

- Distress Centre of Ottawa and Region: call 613-238-3311, text 343-306-5550, or connect online at <https://www.dcottawa.on.ca/>
- Mental Health Crisis Service: call 613-722-6914 or toll-free 1-866-996-0991, or connect online at <http://www.crisisline.ca/>
- Empower Me Counselling Service: call 1-844-741-6389 or connect online at <https://students.carleton.ca/services/empower-me-counselling-services/>
- Good2Talk: call 1-866-925-5454 or connect online at <https://good2talk.ca/>
- The Walk-In Counselling Clinic: for online or on-site service <https://walkincounselling.com>

ACADEMIC ACCOMMODATION

Carleton is committed to providing academic accessibility for all individuals. You may need special arrangements to meet your academic obligations during the term. The accommodation request processes, including information about the Academic Consideration Policy for Students in Medical and Other Extenuating Circumstances, are outlined on the Academic Accommodations website:

<https://students.carleton.ca/course-outline/>

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: If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC

coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC 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 your instructor as soon as possible to ensure accommodation arrangements are made. For more details, visit the [Paul Menton Centre website](#).

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 the [Equity and Inclusive Communities website](#).

Accommodation for Student Activities: Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor 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, see the [Senate Policy on Accommodation for Student Activities \(PDF, 25KB\)](#).

Academic Consideration for Medical and Other Extenuating Circumstances: Due to medical and other extenuating circumstances, students may occasionally be unable to fulfil the academic requirements of their course(s) in a timely manner. The university supports the academic development of students and aims to provide a fair environment for students to succeed academically. Medical and/or other extenuating circumstances are circumstances that are beyond a student's control, have a significant impact on the student's capacity to meet their academic obligations, and could not have reasonably been prevented. Students may request Academic Consideration for Coursework or Other Academic Deliverable. For further information please review the [Procedure for Academic Consideration](#) and the [FAQ page](#).

Scheduling and Examination Support: Scheduling and Examination Services provides various supports for both in-term and end-of-term tests and exams. Details can be found on the [Exam Support website](#).

Global Environmental Systems (GEOG1010)
Fall term 2026 Course Outline

Week	Lecture Class	Lab	Readings
Sept. 10	Introduction to Course	<i>NO LAB</i>	Course outline
Sept. 15-18	The Sun, the Seasons & The Atmosphere The Global Energy System	Lab 1: Topographic Maps and Navigation (7%)	Page 47-58
Sept. 22-25	The Global Energy System (cont'd) Global Climate Change	Lab 1 (Cont'd)	Page 47-58
Sept. 29- Oct. 2	Atmospheric Circulation	Lab 2: Net Radiation at the Earth's Surface (7%) <i>Lab 1 is due at the beginning of your lab period</i>	Page 59-70
Oct. 6-9	Water Cycle and Precipitation	Lab 2 (Cont'd)	Page 72-74 Page 77-96
Oct. 13-16	Weather	Lab 3: Climate Data and Climate Change <i>Lab 2 is due at the beginning of your lab period</i>	Page 97-102
Oct. 20-23	Oct. 20: Weather (cont'd) Thursday Oct. 22: MIDTERM EXAM	Lab 3 (Cont'd)	
Oct. 27-30	<i>NO CLASS – Term BREAK</i>	<i>NO LAB – Term BREAK</i>	
Nov. 3-6	Tectonic Plates Mass Movements	Lab 4: Plate Tectonics (7%) <i>Lab 3 is due at the beginning of your lab period</i>	Page 154-174 Page 199-203 Page 230-239
Nov. 10-13	Streams	Lab 4 (Cont'd)	Page 203-210
Nov. 17-20	Glaciers	Lab 5: Geomorphic Interpretation Using Google Earth (7%) <i>Lab 4 is due at the beginning of your lab period</i>	Page 230-239
Nov. 24-27	Soils	Lab 5 (Cont'd) <i>Lab 5 is due at the end of your lab period</i>	
Dec. 1-4	Biogeography: Introduction, Individuals Biodiversity	<i>NO LAB</i>	
Dec. 8-11	<i>NO CLASS</i>	<i>NO LAB</i>	
Dec.	<i>FINAL EXAM</i>		