

Global Environmental Systems, GEOG1010A [0.5 credit]

Winter 2024

Department of Geography and Environmental Studies, Carleton University

Instructor: Ada Loewen (ada.loewen@carleton.ca)

Office Hours and Teaching Assistants: See Brightspace course page for details.

Lectures: Wednesdays, Fridays: 11:35 - 12:55

Labs:

B04: Thursdays 09:35-11:25

B05: Thursdays 12:35-14:25

B02: Thursdays 15:35-17:25

B01: Thursdays 18:05-19:55

B03: Fridays 14:35-16:25

I. 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.

II. Preclusions: None

III. Learning Outcomes:

By the end of this course, students will:

1. Gain an understanding of the physical processes within the Earth's global environmental systems that shape the diverse climates, landforms, and ecosystems we find within Canada and around the world.
2. Gain an appreciation of how humans influence global environmental systems and the consequences of those impacts.
3. Identify similarities and connections between Western and Indigenous Science for understanding local and global environmental systems.

IV. Texts:

There is no required textbook for this course. Recommended course readings and resources for lectures and labs will be posted on Brightspace. A useful recommended text for this course is noted below.

Christopherson, Robert W., Birkeland, Ginger H., Byrne, Mary-Louise, and Philip T. Giles (2016) **Geosystems: Fourth Canadian Edition**. Upper Saddle River, New Jersey: Pearson Education, Inc. (other editions (Canadian/International) will work as well)

All lecture and lab course materials will be made available on Brightspace*

*Student or professor materials created for this course (including presentations and posted notes, labs, assignments, and exams) remain the intellectual property of the author(s). They are intended for personal use and may not be reproduced or redistributed without prior written consent of the author(s).

V. Course calendar:

Week	Lectures (subject to change)	Labs
Jan 8 – 12	L1. Introduction L2. Solar energy	Lab 1. MacOdrum Library Maps <i>(submitted during the lab period)</i>
Jan 15 – 19	L3. Radiation balance L4. The Atmosphere	Lab 2. Topographic Maps
Jan 22 – 26	L5. Energy balance L6. Global circulation	Lab 2. Topographic Maps (continued)
Jan 29 – Feb 2	L7. Temperature patterns L8. Water cycle and precipitation patterns	Lab 3. Radiation <i>(Lab 2 due)</i>
Feb 5 – 9	L9. Climate and weather patterns L10. Climate change	Lab 4. Climate (computer lab) <i>(Lab 3 due)</i>
Feb 12 – 16	L11. Midterm review Midterm (Feb. 16)	Lab 4. Climate (computer lab) (continued)
Feb 19 – 23	Reading Break (no lectures)	Reading Break (no labs)
Feb 26 – Mar 1	L12. The Lithosphere: endogenic processes L13. Earthquakes and volcanoes	Lab 5. Plate tectonics <i>(Lab 4 due)</i>
Mar 4 – 8	L14. The lithosphere: exogenic processes L15. Glaciers	Lab 6. Geomorphology (computer lab) <i>(Lab 5 due)</i>
Mar 11 – 15	L16. Periglacial environments L17. River systems and landforms	Lab 6. Geomorphology (computer lab) (continued)
Mar 18 – 22	L18. Eolian processes and landforms L19. Soils part 1	Lab 7. Soils <i>(Lab 6 due; Lab 7 submitted during the lab period)</i>
Mar 25 – 29	L20. Soils part 2 Mar 29. Statutory holiday (no lecture)	No labs
Apr 1 – 5	L21. Biogeography L22. Canada's terrestrial biomes	No labs
Apr 8 – 10	L23. Final lecture – final review Apr 12. No lecture	No labs
Apr 13 – 25	Final exam period Exam schedule will be available in February	

VI. Evaluation and course policies:

In-class participation activities	10%	
Laboratory assignments (7)	40%	
Midterm exam	25%	(Feb 16, in class)
Final exam	25%	(held during the exam period)

In-class participation: To receive these marks, you must be present for the in-class lectures. There will be 23 lecture sessions to earn these marks (0.5% per lecture session to a maximum of 10%). Attendance during the lab sessions is expected and required to succeed in this course.

Laboratory assignments: Seven assignments will help you further develop the concepts introduced during the lectures. Five lab assignments (labs 2, 3, 4, 5, and 6) will be written up and submitted for grading (7% each). Labs 1 and 7 will be completed during the lab period where you will check and correct your answers with the TA before leaving to receive full marks (2.5% each).

Exams: These will be limited time and include multiple choice and short paragraph answers.

Policy on late or missed assignments/exams: Lab assignments will be submitted either through Brightspace or in-person on the due date/time noted on the assignment. Late assignments will be penalized by 5% of the total value of the assignment for every additional day beginning immediately at the deadline and will not be accepted after assignments have been graded and returned. Extensions may be granted for legitimate reasons including short-term incapacitation. Only the course instructor can grant extensions. See section IX. Requests for Academic Accommodations below to request informal accommodation due to short-term incapacitation.

Email policy: Please include **GEOG1010** in the subject line of any emails related to this course. Carleton University email accounts are the official means of communication for the course. Students can expect email responses within 24 hours, except on weekends and holidays.

Policy on collaboration and AI: Collaboration is encouraged while working through the assignments, but each student must hand in their own individually prepared assignment. Submitting work that has been previously used in this or other courses is not permitted in this course. In addition, any use of generative AI tools (e.g. Chat GPT) to produce assessed content in this course is considered a violation of academic integrity standards. See also statement on plagiarism below for other academic integrity standards.

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.

VII. Statement on Plagiarism:

Plagiarism will not be tolerated. Students should consult the [Academic Integrity Policy](#).

The University Academic Integrity Policy defines plagiarism as “presenting, whether intentionally or not, the ideas, expression of ideas or work of others as one’s own.” This includes 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 sources from which the ideas, expressions of ideas or works of others may be drawn from include but

are not limited to: books, articles, papers, literary compositions and phrases, performance compositions, chemical compounds, artworks, laboratory reports, research results, calculations and the results of calculations, diagrams, constructions, computer reports, computer code/software, material on the internet and/or conversations.

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);
- 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; and
- failing to acknowledge sources through the use of proper citations when using another's work and/or failing to use quotations marks.

Plagiarism is a serious offence that cannot be resolved directly by 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.

VIII. Statement on Student Mental Health

As a University 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.

Emergency Resources (on and off campus): <https://carleton.ca/health/emergencies-and-crisis/emergency-numbers/>

Carleton Resources:

- Mental Health and Wellbeing: <https://carleton.ca/wellness/>
- Health & Counselling Services: <https://carleton.ca/health/>
- Paul Menton Centre: <https://carleton.ca/pmc/>
- Ojigkwanong Indigenous Student Centre: <https://carleton.ca/indigenous/cisce/students/ojigkwanong-indigenous-student-centre/>
- 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: (613) 238-3311 or TEXT: 343-306-5550, <https://www.dcottawa.on.ca/>
- Mental Health Crisis Service: (613) 722-6914, 1-866-996-0991, <http://www.crisisline.ca/>
- Empower Me: 1-844-741-6389, <https://students.carleton.ca/services/empower-me-counselling-services/>
- Good2Talk: 1-866-925-5454, <https://good2talk.ca/>
- The Walk-In Counselling Clinic: <https://walkincounselling.com>

IX. Requests for Academic Accommodations

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

Informal accommodation due to short-term incapacitation: If you require an extension for assignments or the midterm, please contact me in advance of the deadline and include in your request the Self-Declaration for Academic Considerations form (<https://carleton.ca/registrar/wp-content/uploads/self-declaration.pdf>). Note: final exam deferrals must be arranged through the Registrar's Office (<https://carleton.ca/registrar/deferral>).

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 accommodation regarding a formally-scheduled final exam, you must complete the Pregnancy Accommodation Form ([click here](#)).

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 [click here](#).

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, please request your accommodations for this course through the [Ventus Student Portal](#) 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*). Requests made within two weeks will be reviewed on a case-by-case basis. For final exams, the deadlines to request accommodations are published in the [University Academic Calendars](#). 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).

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>

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 will be provided to students who compete or perform at the national or international level. 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. <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>