

KEEP THIS OUTLINE THROUGHOUT THE TERM - IT CONTAINS IMPORTANT INFORMATION

DEPT OF GEOGRAPHY & ENVIRONMENTAL STUDIES

CARLETON UNIVERSITY

Course Outline – Fall 2023

**COURSE:** The Earth's Surface - GEOG 2014

**INSTRUCTOR:** Dr. Jennifer Totten  
Email: [jennifer.totten@carleton.ca](mailto:jennifer.totten@carleton.ca)  
**Office hours:** Wednesdays, 10:00 – 11:00 am; or Fridays 1:30 – 3:30 pm, on Discord (see separate instructions)

**TEACHING ASSISTANTS:** TBD

**PREREQUISITE:** GEOG 1010 or EARTH 1006 or ISCI 1001

**LECTURES:** Wednesday & Fridays, 11:35 am – 12:55 pm

**LABORATORY:**

Lab	Day	Time
A1	Mondays	11:35 – 14:25 hrs.
A2	Fridays	14:35 – 17:25 hrs.

**Course Description:**

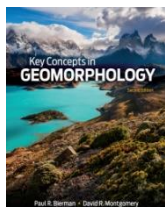
Geomorphology is the study of landforms and the processes that transform them. It is an empirical and field-oriented science, although modelling and laboratory studies are also conducted. Geomorphology has many applications beyond academic study – it provides the technical background to many environmental problems that threaten people (e.g., flooding, landslides, erosion) and also provides insight into the location of economically important resources (e.g., aggregate deposits). Geomorphology is intertwined with a variety of related disciplines such as geology, hydrology, climatology and ecology and, as such, is a key geography/environmental science sub-discipline.

**Course Objectives/ Learning outcomes:**

The primary objective of this course is to develop a sound understanding of earth surface processes, how they form and modify the physical world, starting with fundamental concepts and visiting each of the major geomorphological environments/topics in turn. We will examine how internal earth processes (e.g., volcanism, tectonism) and external agents (e.g., rivers, waves, wind, ice) act together to produce the many landforms and landscapes that we see today. There will be a particular focus on Canadian examples. Students will also learn to identify and interpret landforms and learn geomorphological techniques by completing exercises and lab reports. By the end of the course, students will be able to identify the dynamic forces responsible for landscape development and comprehend the time it takes for changes to occur.

**TEXTBOOK/READINGS:**

Bierman, P.R & Montgomery D.R. 2019. *Key Concepts in Geomorphology. Second Edition.* Macmillan Press: 498 pp  
(available through Carleton University Bookstore in several formats)



It is the responsibility of each student to familiarize themselves with this material. Material contained in the required readings will be included on the final exam. Additional material may be assigned during the term, but will be made available on *BrightSpace*.

### **Course communication:**

This course uses *BrightSpace*, Carleton's learning management system. To access your courses on *BrightSpace* go to <https://brightspace.carleton.ca>. For help and support, go to <http://carleton.ca/students>. Any unresolved questions can be directed to Computing and Communication Services (CCS) by phone at 613-520-3700 or via email at [ccs.service.desk@carleton.ca](mailto:ccs.service.desk@carleton.ca)

Classroom teaching and learning activities, including outlines, lectures, PowerPoint presentations, posted notes, labs etc., by both instructors and students, are copy protected and remain the intellectual property of their respective author(s). They are intended for personal use and may not be reproduced or redistributed without prior written consent of the author(s). Students registered in the course may take notes and make copies of course materials for their own educational use only. Students are not permitted to reproduce or distribute lecture notes and course materials publicly for commercial or non-commercial purposes without express written consent from the copyright holder(s)."

Communication for this course will be through a number of means. The lecture and labs will be held in-person, on campus. Additionally, there will be online forums (hosted on Discord), there is access via email or you may consult me on campus or online. There are several forums set up on the GEOG 2014 Server on Discord: a general discussion forum, one set up for asking the Instructor questions (so you don't have to email, unless it's personal), one for asking the TA questions, and one specifically for students to be able to communicate with one another. There are both texting channels & voice channels, so there are many options for us to stay in touch. The instructions for accessing the Discord server are posted separately on the *BrightSpace* course page, but the link to the server is here below.

<https://discord.gg/bK895nxTaM>

I will be available for my **office hours** on Wednesdays from 10 – 11 am **on campus** (Loeb A209) or Monday & Friday evenings from 7 – 9 pm **online on Discord** (on Office Hours voice channel). I may also answer questions at other times on the Discord server if I drop by. I will be checking the "Ask-the-Prof" forum frequently. There are also Lab Questions Channels (both voice & text) on Discord where the TA will answer questions periodically.

### **Course assessment & Submission policy for the course**

The assessment for the course will be based on four components:

1. There will be 5 lab assignments worth 8% each (40% total).
2. The midterm examination will be worth 20% of the total marks.
3. The final examination will be worth 40% of the total marks - You **MUST** pass the final exam to pass the course, no matter your standing prior to the exam!

All elements of the course will be marked both for content (e.g. ideas, structure of arguments, research, citations, etc.) and presentation (e.g. quality of writing, grammar, spelling, and graphical presentation). All assignments are to be submitted through *BrightSpace*. 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.

The **midterm exam** is scheduled for **Friday, October 20<sup>th</sup>** at 11:30 am. It will take one hour to complete and will include multiple choice, fill-in-the-blanks, and short answer-type questions. The test will be based on the lectures and the readings.

The schedule for the final exam has not yet been determined by the University, but it can be anytime between Dec 10-22 (including evenings and weekends). It will be 3 hours long, will be an on-line exam and will cover the **entire** course including lectures, readings and assignments. It will be more heavily weighted to the second half of the course.

There will be five lab assignments throughout the semester: three on interpretation of maps/Google Earth imagery, one on rock sample identification, and one field trip. All 5 Labs contribute to your grade. Completion of all labs, and both exams are required for successful completion of the course. Submission dates are important. Lab reports are due via *BrightSpace* by 11:59 pm **the evening PRIOR TO your next lab session** (see attached schedule). Labs will typically be due two weeks after they are first assigned. Assignments will only be accepted **for 2 days beyond the due date** with a penalty of 5% (of the lab itself) per day, *unless prior arrangements have been made*. The only exception is for reasons of illness or equivalent circumstances (e.g. bereavement). These types of situations must be fully documented in writing **within 3 business days** of the assignment due date. If in doubt, please send me an email or discuss this with me during my Office Hours or on the Discord platform.

Carleton University has suspended the need for a doctor's note or medical certificate until further notice. Students instead need to complete the self-declaration form available on the Registrar's Office website to request academic accommodation for missed course work including exams and assignments. Here is the link to the form: <https://carleton.ca/registrar/wp-content/uploads/self-declaration.pdf> Students should also connect directly with me to discuss required accommodations arising from medical or other situations. If in doubt, please send me an email or discuss this with me during my Office Hours.

Unless otherwise specified, group work is not acceptable. This includes all term work and the final exam. Sharing of answers on the final exam is **strictly forbidden**. Submitting work that has been previously used in this or other courses is not permitted **in this course**. Assignments will be returned via *Brightspace*, and general feedback will be provided in the lab period following. If you have any questions about the grading, please discuss this with your TA, or with me via email or during Office Hours.

Standing in this 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.

### **Academic Integrity Policies**

Instructional offences include among other activities cheating, contravening examination regulations, plagiarism, submitting similar work in 2 or more courses *without prior permission*, and disrupting classes. Conduct offenses apply in areas of discrimination and sexual harassment. Further information about University regulations which define and regulate these offences is found at: <http://www2.carleton.ca/studentaffairs/academic-integrity>

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.

### **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. Here is a list that may be helpful:

**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/>
- 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>

### **Academic Accommodation**

You may need special arrangements to meet your academic obligations during the term because of illness, disability, pregnancy or religious obligations. Please review the course outline promptly. For an accommodation request the processes are as follows:

**Informal accommodation due to short-term incapacitation:** write to me as soon as possible after the need for accommodation is known to exist. If you are going to miss course obligations (labs or submission deadlines), you must complete the self-declaration form on the Registrar's Office website to request academic accommodation for missed course work. Here is the link: <https://carleton.ca/registrar/wp-content/uploads/self-declaration.pdf> For more details, see the Student Guide.

**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, see the Student Guide.

**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, see the Student Guide.

**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](mailto: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. After requesting accommodation from PMC, email me to ensure accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally-scheduled exam.

### 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 must 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>

### Other Important Locations on Campus:

Paul Menton Centre (500 Unicentre) for students needing accommodation  
 Academic Writing Centre and Writing Tutorial Service (4th Floor, Library, 613-520-6632)  
 Student Academic Success Centre (SASC, 302 Tory, 613-520-7850)  
 The Learning Commons (4th Floor, Library, 613-520-2600, ext.1125)

### TENTATIVE CLASS SCHEDULE, TOPICS AND READING LIST (Subject to modification)

*Assignment due dates are fixed.*

Month	Day	Topic	Readings / Room
September	6	Introduction	Bierman & Montgomery, Chapter 1
	8	Key concepts & evolution of geomorphology	Bierman & Montgomery, Chapter 2 & 3
	<b>11 or 15</b>	<b>Lab 1 – Rock identification (due midnight before your lab session week of Sept 25-29)</b>	<b>Loeb A211</b>
	13	Rocks and minerals – the framework	Strahler & Archibold, Ch 11 (pg. 258 – 277: BrightSpace)
	15	Rocks and minerals – the framework (cont'd)	Strahler & Archibold, Ch 11 (pg. 258 – 277)
	<b>18 or 22</b>	<b>Lab - Working session – TA will help during lab period</b>	<b>Loeb A211</b>
	20	Plate tectonics	B & M, Chapter 15
	22	Plate tectonics	B & M, Chapter 15
	<b>25 or 29</b>	<b>Assignment 1 DUE @ 11:59 pm Sept 24<sup>th</sup> or 28<sup>th</sup>. Lab 2 – Topographic maps (due midnight week of 13<sup>th</sup>)</b>	<b>Loeb A211</b>
	27	Tectonic landforms	B & M, Chapter 15
	29	Mountain building	B & M, Chapter 12
October	<b>2 or 6</b>	<b>Lab - Working session – TA will help during lab period</b>	<b>Loeb A211</b>
	4	Volcanic landforms	B & M, Chapter 12
	6	Volcanic landforms	B & M, Chapter 12
October	<b>9 or 13</b>	<b>Assignment 2 DUE @ 11:59 pm Oct 9<sup>th</sup> or 12<sup>th</sup>. NO lab periods this week – Thanksgiving week</b>	

	11	Weathering and soils	B & M, Chapter 5 & 6
	13	Weathering and soils/ Slope processes	B & M, Chapter 5 & 6 & 7
October	<b>16 or 20</b>	<b>Lab 3 – Volcanic landforms (due week of Nov 5th)</b>	<b>Loeb A211</b>
	18	Slope processes	B & M, Chapter 7
	20	<b>Midterm Exam</b>	<b>All material covered to end of Wed 18<sup>th</sup>.</b>
	<b>23-27</b>	<b>READING WEEK – NO CLASSES / LABS</b>	
	<b>30 or Nov 3</b>	<b>Lab - Working session – TA will help during lab period</b>	<b>Loeb A211</b>
November	1	Slope processes	B & M, Chapter 7
	3	Fluvial landforms	B & M, Chapter 8 & 9
	<b>6 or 10</b>	<b>Assignment 3 DUE @ 11:59 pm Nov 5<sup>th</sup> or 9<sup>th</sup>. Lab 4 – Field trip to Hogs Back Falls (due midnight Nov 12<sup>th</sup> or 16<sup>th</sup>)</b>	<b>Loeb A211 – heading out from there to HOGS BACK FALLS ***MANDATORY ATTENDANCE***</b>
	8	Fluvial processes	B & M, Chapter 8 & 9
	10	Fluvial processes	B & M, Chapter 8 & 9
	<b>13 or 17</b>	<b>Assignment 4 DUE @ 11:59 pm Nov 12<sup>th</sup> or 16<sup>th</sup>. Lab 5 –Glacial landforms (due midnight Nov 26 or 30)</b>	<b>Loeb A211</b>
	15	Glacial formation & classification	B & M, Chapter 13
	17	Glacial erosional processes and landforms	B & M, Chapter 13
	<b>20 or 24</b>	<b>Lab - Working session – TA will help during lab period</b>	<b>Loeb A211</b>
	22	Glacial depositional processes and landforms	B & M, Chapter 13
	24	Coastal processes and landforms,	B & M, Chapter 10
	<b>27 or Dec 1</b>	<b>Assignment 5 DUE @ 11:59 pm Nov 27<sup>th</sup> or Dec 1st. No more labs – all assignments now completed</b>	<b>Loeb A211</b>
	29	Coastal processes and landforms,	B & M, Chapter 10
December	1	Coastal processes and landforms	B & M, Chapter 10
	6	Applied geomorphology & Course Review	All material to present