

	<p><i>School of Arts &amp; Science</i>  <b>SOCIAL SCIENCES DEPARTMENT</b></p> <p><b>ENVR 207</b>  <b>Applied Geomorphology</b>  <b>Fall, 2014</b></p>
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**COURSE OUTLINE**

**1. Course Description**

Geomorphology is the study of landforms and the processes that shape them. This course will introduce students to land formation, weathering, and the processes, landforms and sediment properties associated with geomorphic agents such as gravity, water and ice. There will be a local and regional emphasis. Through lab and field-based activities, students will learn a range of applied geomorphological skills.

I encourage participation and discussion in class. My goal is to have you think and understand, so please speak up if you are confused! Group work is encouraged, and you should help each other learn. This does not mean you can copy! Each student must do their own individual assignment reports. Also beware of plagiarism in written reports and presentations; for details on plagiarism and Camosun's academic dishonesty policies, see <http://camosun.ca/learn/calendar/current/pdf/academic-policies.pdf>. In cases of copying or plagiarism, all students involved will get a mark of zero on that assignment.

**Note: The official Approved Course Description is available on the web at <http://camosun.ca/learn/calendar/current/web/envr.html#ENVR207>**

- *Please note: this outline will be electronically stored for five (5) years only. It is strongly recommended students keep this outline for your records.*

**2. Instructor Information**

Instructor:	Chris Ayles
Office Hours:	Mon 12:30 - 1:20 Tue 10:30 - 11:20. Thu 12:30 – 1:20. Fri 11:30 – 12:20. Other times available by chance or appointment.
Location:	Fisher 342C
Phone:	370-3393
Email:	cayles@camosun.bc.ca
Website:	faculty.camosun.ca/chrisayles

**3. Intended Learning Outcomes**

At the end of this course, students will be able to:

1. Describe the major mechanisms of initial land formation.
2. Identify the physical processes and landforms associated with geomorphic agents such as gravity, water and ice.
3. Describe the Quaternary landscape history of southwestern BC.
4. Use a variety of tools and assessment methods common to geomorphological investigations.
5. Carry out a field-based geomorphological project, data collection, analysis and reporting.
6. Interpret sedimentary deposits.

#### 4. Course Materials

There is no single textbook for this course. Required readings will come from several sources, all of which are available in the bookstore or on reserve in the library...

(a)	Texts	<p><u>Optional:</u> Christopherson, R.W., M. Byrne and P. Giles, 2012. <i>Geosystems, 3<sup>d</sup> Canadian Edition</i>. Toronto: Pearson Education Canada, 720 pp.</p> <ul style="list-style-type: none"> <li>Older versions are around, but ultimately you are responsible for the material from the new edition.</li> </ul> <p><u>Optional:</u> Trenhaile, A.S., 2013. <i>Geomorphology: A Canadian Perspective, 5<sup>th</sup> Edition</i>. Don Mills, ON: Oxford University Press Canada, 575 pp.</p> <ul style="list-style-type: none"> <li>Same comment as above..</li> </ul> <p><u>Optional:</u> Yorath, C.J., 2005. <i>The Geology of Southern Vancouver Island, Revised Edition</i>. Madeira Park, BC: Harbour Publishing, 205 pp.</p> <ul style="list-style-type: none"> <li>This can be found at Camosun and most other local bookstores.</li> </ul>
(b)	Other	<p><u>Required:</u> ENVR 207 Lab Manual.</p>

#### 5. Course Format

- Lectures:** Lectures will provide the background you need to understand the labs and pass the final exam, so attendance is essential. I use PowerPoint, and I will post basic lecture outlines on my web site: [faculty.camosun.ca/chrisayles](http://faculty.camosun.ca/chrisayles). These outlines are pretty sparse, and no substitute for coming to class!
- Readings** are an essential part of this course – they provide depth and context that are indispensable to a full understanding of the course material. Specific reading assignments are detailed below; these may be modified as the term goes on.
- Labs:** You must buy a lab manual at the bookstore! Please come to your registered lab time.

On regular lab days, bring pencils, paper, graph paper, calculator and ruler. Students will be expected to complete and hand in individual assignments, though cooperation is encouraged.

Three of our labs are field-based, and two of these are to be completed in small groups. This means you get each other's help, and you can hand in a single group report. On the downside, you will have to divide the job, arrange meetings, review each other's work, and compromise. This can be fun, or a pain, but either way it is an important skill. If you are having problems with your partners, try to work it out. If you can't, come see me and I will try to help find a solution.

On field days, the bus will leave at 9:30 and 1:30 sharp, so don't be late unless you have made alternate arrangements with me. On field days, students are responsible for bringing: waterproof field notebook, snacks, water, rain and cold gear, camera, sturdy footwear, ruler and pencils. Don't break the field gear – it costs a lot!

Lab performance will be evaluated based on thoroughness, neatness, accuracy, participation and, occasionally, writing quality. Attendance during the lab time is mandatory, as these labs are gear-intensive and hard to reschedule. Labs will generally be due the following week, and will not be accepted at all after I have returned them marked. Late reports may be penalized 10% per day.

- **Field trips:** In addition to the labs and projects, you will be expected to attend two field trips. Take notes and hand them in for 2% each. One of these trips will take place on a Saturday. It will be awesome, so please arrange your life around it. For those who can't, a local self-guided alternative will be provided.
- **Project:** In pairs, students will be expected to research either a local landform of their choosing or an applied geomorphology case study from anywhere in the world. Findings must be presented in poster format during one of the final two lab sessions. Details are provided in a separate handout.
- **Exam:** Because of this course's strong lab focus, there is no midterm, just a cumulative final exam. The format will be a combination of multiple choice, short answer and lab-style questions. They mainly will emphasize the lecture material, though lab material will also be drawn upon.
- **Illness, etc.:** If you miss a lab or exam due to illness or some other serious reason, I must ask you to provide a doctor's note or other documentation to support your story. Otherwise, a mark of zero for the missed assignment will be given. Exams and field trips are hard to reschedule, so try not to miss them unless you are too sick to perform at a normal level.

Students who miss a lab or exam for a valid reason must contact me within 24 hours with an explanation. In such cases, one makeup exam time will be scheduled, and all students needing it will be expected to attend.

## 6. Basis of Student Assessment

Evaluation will be based on accuracy, thoroughness, and neatness. As a general rule, always show your work and keep track of units of measure! When I grade your work, I am looking for proof of your understanding, so do everything clearly and carefully – that way you may get partial credit, even for wrong answers. I endeavour to mark things fairly and consistently, but if you have a question about my assessment, feel free to come to my office and ask about it.

(a)	Labs	Lab 1                    6% Labs 2, 4, 5, 6, 7, 8    4% <u>Lab 3</u> 12% TOTAL                    46%
(b)	Field Trip Notes	2 x 2% = 4%
(c)	Project	14%
(d)	Final Exam	40%

**7. COURSE SCHEDULE** (Subject to change at instructor's discretion):

**NOTE:** Field-based lab locations are shown in **bold**; come prepared! Contact me ahead of time if you don't plan to travel with the class.

Week	Monday (lecture)	Thursday (labs)
1-Sep	<i>Labour Day No class</i>	Course Intro / Initial Landforms
8-Sep	Slopes 1	Lab 1: Surveying <b>(Lansdowne campus)</b>
15-Sep	Slopes 2	Lab 2: Slope Stability
22-Sep	Coasts	Lab 3: Coastal Erosion Management <b>(Dallas Road)</b>
29-Sep	Rivers 1	<i>No lab; work on Lab 3 report.</i>
6-Oct	Rivers 2	Lab 4: Surface Hydrology
13-Oct	<i>Thanksgiving No class</i>	Lab 5: Fluvial Landforms
20-Oct	Glaciers 1	<i>No lab <b>River field trip on Saturday</b></i>
27-Oct	Glaciers 2	Lab 6: Glacial Processes and Landforms
3-Nov	Terrain Classification	Lab 7: Terrain Classification
10-Nov	Glacial landforms field trip <b>(Greater Victoria)</b>	Lab 8: Terrain Map Validation <b>(Interurban campus)</b>
17-Nov	Periglacial Landscapes	<i>No lab; work on poster projects.</i>
24-Nov	River Regulation and Dam Removal	Poster Session 1
1-Dec	Guest Lecture	Poster Session 2

Exam Week: Review session (date and time TBD)

Final Exam.

## 8. READING LIST

<i>Week of:</i>	<i>Required Reading</i>	<i>Comments</i>
Sep. 1	Trenhaile pp. 31-45, 63-70.	Overview of earth structure and initial land formation processes. <u>Optional</u> but interesting: Trenhaile Ch. 3 (geological formation of Canada).
Sep. 8	Trenhaile pp. 98-116, 131-136.	Weathering and slope erosion by runoff. No need to memorize the chemical reactions.
Sep. 15	Trenhaile pp. 136-163.	Mass wasting.
Sep. 22	Christopherson et al. Ch. 16.	Coastal processes and landforms. <u>Note</u> : You may want to peruse the Thurber Consultants report (on reserve) before lab next week.
Sep. 29	Christopherson et al. Ch. 14.	Rivers and fluvial landforms. <u>Optional</u> : Trenhaile Ch. 10-11 (more advanced).
Oct. 6	Church, 1992: Channel Morphology and Typology.	A more sophisticated overview of channel morphology, written for environmental professionals. Don't get hung up on the details, just read.
Oct. 13	None.	Happy Thanksgiving.
Oct. 20	Christopherson et al. Ch. 17.	Glacial processes and landforms (with a preview of periglaciation.) <u>Optional</u> : Trenhaile Ch. 6-7 are more thorough. Trenhaile Ch. 8 is a fascinating but detailed glacial history of Canada.
Oct. 27	Clague, 1994: Quaternary stratigraphy and history of south-coastal British Columbia.	A very nice summary of our recent glacial history, and the evidence used to reconstruct it.
Nov. 3	Terrain Classification System for British Columbia Version 2, 1997.	Search for this free government document online, and look It over before class.
Nov. 10	None.	<u>Have you started working on your project yet?</u>
Nov. 17	Trenhaile Ch. 9.	Periglacial processes and landforms - could be useful if you ever work up north.
Nov. 24	None.	<u>Optional</u> : dam removal article by Hart et al. (2002).
Dec. 1	None.	Catch up on readings and start reviewing for final exam.

## 9. Grading System

### Standard Grading System (GPA)

Percentage	Grade	Description	Grade Point Equivalency
90-100	A+		9
85-89	A		8
80-84	A-		7
77-79	B+		6
73-76	B		5
70-72	B-		4
65-69	C+		3
60-64	C		2
50-59	D		1
0-49	F	Minimum level has not been achieved.	0

### Temporary Grades

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy at [camosun.ca](http://camosun.ca) or information on conversion to final grades, and for additional information on student record and transcript notations.

Temporary Grade	Description
I	<i>Incomplete:</i> A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.
IP	<i>In progress:</i> A temporary grade assigned for courses that are designed to have an anticipated enrollment that extends beyond one term. No more than two IP grades will be assigned for the same course.
CW	<i>Compulsory Withdrawal:</i> A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement.

## 10. Recommended Materials or Services to Assist Students to Succeed Throughout the Course

### LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College calendar, at Student Services or the College web site at [camosun.ca](http://camosun.ca).

### STUDENT CONDUCT POLICY

There is a Student Conduct Policy **which includes plagiarism**. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, at Student Services and on the College web site in the Policy Section.