

COURSE SYLLABUS



COURSE TITLE: GEOS-100: Physical Geology

CLASS SECTION: 001

TERM: Fall 2023

COURSE CREDITS:4

DELIVERY METHOD(S): face-to-face

Camosun College campuses are located on the traditional territories of the Lək̓ʷəŋən and W̱SÁNEĆ peoples. We acknowledge their welcome and graciousness to the students who seek knowledge here.

Learn more about Camosun's [Territorial Acknowledgement](#).

Camosun College requires mandatory attendance for the first class meeting of each course. If you do not attend, and do not provide your instructor with a reasonable explanation in advance, you will be removed from the course and the space offered to the next waitlisted student.

INSTRUCTOR DETAILS

NAME: Dr. Leanne Pyle

EMAIL: PyleL@camosun.bc.ca

OFFICE: F344D

HOURS: Monday & Wednesday 11:30-12:20

As your course instructor, I endeavour to provide an inclusive learning environment. However, if you experience barriers to learning in this course, do not hesitate to discuss them with me. Camosun College is committed to identifying and removing institutional and social barriers that prevent access and impede success.

CALENDAR DESCRIPTION

The origin, composition, age, and processes of Earth are introduced. We study mineral and rock composition, and properties, rock-forming processes, geologic structures, earthquakes, and the plate tectonic model. We apply this knowledge to the geology of BC. A weekend field trip is optional. Previous study of chemistry is an asset.

PREREQUISITE(S):

One of:

- C in English 12
- C in Camosun Alternative

CO-REQUISITE(S):

Not Applicable

EXCLUSION(S):

Not Applicable

COURSE LEARNING OUTCOMES / OBJECTIVES

Upon completion of this course a student will be able to:

1. Analyze minerals for common physical properties.
2. Identify common rock-forming minerals on the basis of their properties.
3. Infer how samples of some rocks have formed.
4. Infer the relationship of rock-forming processes to plate tectonics.
5. Describe and interpret textural features of rocks.
6. Describe compositional features of rocks.
7. Classify common rocks based on texture and composition.
8. Apply techniques to determine the chronological order of events in Earth's history.
9. Calculate absolute ages of Earth materials and events.
10. Identify common geologic structures and use symbols to represent such structures on maps.
11. Identify, describe and interpret geological structures in three dimensions.
12. Determine the relationship of geological structures and plate tectonic boundaries.
13. Determine the location of an earthquake from seismic data.
14. Use seismograms to infer relative earth movements on faults.
15. Relate the nature and distribution of major earth features such as mountains, volcanoes and earthquakes to plate tectonics.

REQUIRED MATERIALS & RECOMMENDED PREPARATION/INFORMATION

- a. Free Online Physical Geology Textbook 2nd Edition by Dr. Steven Earle, Thompson Rivers University:
<https://opentextbc.ca/physicalgeology2ed/>
- b. Required: Laboratory Manual in Physical Geology, AGI, 10th, 11th or 12th edition from Pearson Canada
- c. Recommended: 4th Canadian Edition Earth: An Introduction to Physical Geology, E.J. Tarbuck, F.K. Lutgens, C.J. Tsujita & S.R. Hickock, 2015, 4th ed. Pearson Canada Inc.
- d. Recommended: Van der Flier-Keller, E. 2006. A Field Guide to the Identification of Pebbles. Harbour Publishing.
- e. Recommended: Yorath, C., 2005 (or earlier edition). The Geology of Southern Vancouver Island. Harbour Publishing, Madeira Park, B.C., 179 p.

COURSE SCHEDULE, TOPICS, AND ASSOCIATED PREPARATION/ACTIVITY/ EVALUATION

The following schedule and course components are subject to change with reasonable advance notice, as deemed appropriate by the instructor.

WEEK OF:	TOPIC	READINGS & ACTIVITIES
Sept. 4	Introduction to Earth Systems Science Origin of Earth and Earth's Structure	Open Text Chapters 1&9; Tarbuck Chapter 1 No Lab this week
Sept. 11	Minerals: Groups and Identification	Open Text Chapter 2; Tarbuck Chapter 2 Lab 3 in Manual, Minerals Part 1
Sept. 18	Igneous Processes and Rocks Geohazards 1: Volcanoes	Open Text Chapters 3&4; Tarbuck Chapters 3&4 Lab 5 in Manual, Igneous Rocks
Sept. 25	Weathering Processes and Soils Sedimentary Processes and Rocks	Open Text Chapters 5&6; Tarbuck Chapters 5&6 Lab 6 in Manual, Sedimentary Rocks
Oct. 2	Metamorphic Processes and Rocks Plate Tectonics Geology of BC	Open Text Chapters 7, 10, 21; Tarbuck Chapters 7&12 Field Trip 1 **start making Pebble Collections in field
Oct. 9	Geohazards 2: Earthquakes & Tsunamis	Open Text Chapter 11; Tarbuck Chapter 10 Field Trip 2
Oct. 16	Geology of the Oceans Building of Continents, Rock Deformation	Open Text Chapter 18&12; Tarbuck Chapter 11&13 Lab 7 in Manual, Metamorphic Rocks
Oct. 23	Geological Time Quiz #1 Earth Science Research	Open Text Chapter 8; Tarbuck Chapter 8 Lab 8 in Manual, Fossils & Dating
Oct. 30	Earth History	Open Text Chapter 8; Tarbuck Chapter 8 Re-visit Lab 3 in Manual, Minerals Part 2 Term Project Topic idea due via email
Nov. 6	Mass Wasting & Landforms Hydrosphere 1: Fluvial Processes Hydrosphere 2: Fluvial Landforms	Open Text Chapter 15&13; Tarbuck Chapter 14&15 Lab 10 in Manual, Geological Maps Work on and display Pebble Collections in Lab – Rock Cycle Team Project - Due by Nov. 13 in Dropbox
Nov. 13	Hydrosphere 3: Groundwater Processes Hydrosphere 4: Groundwater Issues	Open Text Chapter 14; Tarbuck Chapter 16 Term Project Written Report & Presentations - Due on Nov. 20 (in separate Assignment Dropboxes in D2L)
Nov. 20	Cryosphere 1: Glacial Processes Cryosphere 2: Glacial Landforms	Open Text Chapter 16; Tarbuck Chapter 17 During Lab Period, Student Presentations
Nov. 27	Coasts and Sea Level Change	Open Text Chapter 17; Tarbuck Chapter 19 During Lab Period, Student Presentations
Dec. 4	Earth's Resources Course wrap-up/summary	Open Text Chapter 20; Tarbuck Chapter 20

Students registered with the Centre for Accessible Learning (CAL) who complete quizzes, tests, and exams with academic accommodations have booking procedures and deadlines with CAL where advanced notice is required. Deadlines can be reviewed on the [CAL exams page](http://camosun.ca/services/accessible-learning/exams.html). <http://camosun.ca/services/accessible-learning/exams.html>

EVALUATION OF LEARNING

DESCRIPTION	WEIGHTING
Lab, field trip exercises and participation in Library Tutorial	25%
Quiz	10%
Rock Cycle/Pebble Collection Team Project	10%
Individual Term Project and Presentation	20%
Final Exam	35%
	TOTAL
	100%

If you have a concern about a grade you have received for an evaluation, please come and see me as soon as possible. Refer to the [Grade Review and Appeals](http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf) policy for more information.
<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf>

COURSE GUIDELINES & EXPECTATIONS

- a. Lectures: **Monday & Thursday at 8:30-9:50 AM in Fisher 266.**
- b. Lab: **Wednesday, 8:30-11:20AM in Fisher 300.**
- c. Lab attendance is mandatory, and **you must pass the lab to pass the course.**
- d. Lab work will be done in Teams, with one Team assignment handed in each week. **Labs are due at the end of each lab.** Labs require pre-lab preparatory reading as listed in this Syllabus.
- e. **Two labs will be based on field trips.** These integrate your course learning with field observations and give you practice relating the theory and terminology to real world observations and processes. **Signed waivers are required to participate.** An assignment done on-site during the field trip will be worth equal credit of one lab.

Students must write each test/quiz during the time scheduled in the course outline, and submit required assignments by the specified deadline. On a case-by-case basis, and at the instructor's discretion, a student experiencing a personal emergency or an uncontrollable extenuating circumstance (as outlined in the Academic Concessions Policy) may be offered a concession for missed tests/quizzes/reports, if possible and appropriate.

Assignments handed in after the posted deadline will incur a deduction of 10% per day (or partial day) that the assignment is late. If there are extenuating circumstances, it is the learner's responsibility to inform the instructor **prior** to the posted deadline that the assignment may be submitted late. It is at the instructor's discretion if any relaxation of the guideline will be made in these circumstances.

STUDENT RESPONSIBILITY

Enrolment at Camosun assumes that the student will become a responsible member of the College community. As such, each student will display a positive work ethic, assist in the preservation of College property, and assume responsibility for their education by researching academic requirements and policies;

demonstrating courtesy and respect toward others; and **respecting expectations concerning attendance, assignments, deadlines, and appointments.**

SUPPORTS AND SERVICES FOR STUDENTS

Camosun College offers a number of services to help you succeed in and out of the classroom. For a detailed overview of the supports and services visit <http://camosun.ca/students/>.

Academic Advising	http://camosun.ca/advising
Accessible Learning	http://camosun.ca/accessible-learning
Counselling	http://camosun.ca/counselling
Career Services	http://camosun.ca/coop
Financial Aid and Awards	http://camosun.ca/financialaid
Help Centres (Math/English/Science)	http://camosun.ca/help-centres
Indigenous Student Support	http://camosun.ca/indigenous
International Student Support	http://camosun.ca/international/
Learning Skills	http://camosun.ca/learningskills
Library	http://camosun.ca/services/library/
Office of Student Support	http://camosun.ca/oss
Ombudsperson	http://camosun.ca/ombuds
Registration	http://camosun.ca/registration
Technology Support	http://camosun.ca/its
Writing Centre	http://camosun.ca/writing-centre

If you have a **mental health concern**, please contact Counselling to arrange an appointment as soon as possible. Counselling sessions are available at both campuses during business hours. If you need urgent support after-hours, please contact the Vancouver Island Crisis Line at 1-888-494-3888 or call 911.

COLLEGE-WIDE POLICIES, PROCEDURES, REQUIREMENTS, AND STANDARDS

Academic Accommodations for Students with Disabilities

The College is committed to providing appropriate and reasonable academic accommodations to students with disabilities (i.e. physical, depression, learning, etc). If you have a disability, the [Centre for Accessible Learning](#) (CAL) can help you document your needs, and where disability-related barriers to access in your courses exist, create an accommodation plan. By making a plan through CAL, you can ensure you have the

appropriate academic accommodations you need without disclosing your diagnosis or condition to course instructors. Please visit the CAL website for contacts and to learn how to get started: <http://camosun.ca/services/accessible-learning/>

Academic Integrity

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.13.pdf> for policy regarding academic expectations and details for addressing and resolving matters of academic misconduct.

Academic Progress

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.1.pdf> for further details on how Camosun College monitors students' academic progress and what steps can be taken if a student is at risk of not meeting the College's academic progress standards.

Course Withdrawals Policy

Please visit <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.2.pdf> for further details about course withdrawals. For deadline for fees, course drop dates, and tuition refund, please visit <http://camosun.ca/learn/fees/#deadlines>.

Grading Policy

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf> for further details about grading.

Grade Review and Appeals

Please visit <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.14.pdf> for policy relating to requests for review and appeal of grades.

Medical/Compassionate Withdrawals

Students who are incapacitated and unable to complete or succeed in their studies by virtue of serious and demonstrated exceptional circumstances may be eligible for a medical/compassionate withdrawal. Please visit <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.8.pdf> to learn more about the process involved in a medical/compassionate withdrawal.

Sexual Violence and Misconduct

Camosun is committed to creating a campus culture of safety, respect, and consent. Camosun's Office of Student Support is responsible for offering support to students impacted by sexual violence. Regardless of when or where the sexual violence or misconduct occurred, students can access support at Camosun. The Office of Student Support will make sure students have a safe and private place to talk and will help them understand what supports are available and their options for next steps. The Office of Student Support respects a student's right to choose what is right for them. For more information see Camosun's Sexualized Violence and Misconduct Policy: <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.9.pdf> and camosun.ca/sexual-violence. To contact the Office of Student Support: oss@camosun.ca or by phone: 250-370-3046 or 250-3703841

Student Misconduct (Non-Academic)

Camosun College is committed to building the academic competency of all students, seeks to empower students to become agents of their own learning, and promotes academic belonging for everyone. Camosun also expects that all students to conduct themselves in a manner that contributes to a positive, supportive, and safe learning environment. Please review Camosun College's Student Misconduct Policy at <http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.pdf> to understand the College's expectations of academic integrity and student behavioural conduct.

Changes to this syllabus: Every effort has been made to ensure that information in this syllabus is accurate at the time of publication. The College reserves the right to change courses if it becomes necessary so that course content remains relevant. In such cases, the instructor will give the students clear and timely notice of the changes.