

ERTH 1080

Instructor: Dr. **Lexie Arnott** (Lexie@dal.ca)

Office: LSC 3081 (Biology wing)

Classes: Hicks 212 5:35-6:55pm
Monday & Wednesday

Office Hours:

<https://outlook.office365.com/owa/calendar/OfficeHours2@dal.onmicrosoft.com/bookings/s/wcH2RhzXUSK6RL338yBlw2>

GEOLOGY 1

Lab Instructor: **Mike Young** (Mike.Young@dal.ca)

Office: LSC 2055A

Labs: LSC 2055

Wednesday (B01) 11:35am-2:25pm

Wednesday (B03) 2:35-5:25pm

Friday (B02) 11:35am-2:25pm

Office Hours: email for appointment

Textbook: Laboratory Manual for Introductory Geology 4th Edition by Ludman and Marshak

Fall 2024

Throughout this term we will be studying about the Earth Sciences in Traditional Mi'kmaq Territory. Please take a moment to consider what this means to you as a learner on this land.

Course Summary

This is an introductory Earth Sciences (geology) course: 3 credit hours, with a lab. ERTH 1080 is a required course for Earth Science majors; an excellent course for anyone requiring a lab credit course or interested in Earth Sciences. This course only requires a minimal background in science and math; no prior geology is required! There are no prerequisites.

Calendar Description

This course focuses on the solid earth (geosphere) and how it evolved throughout Earth's vast history and continues to evolve today. The processes involved are recorded in the rocks and minerals of our earth, and we explore these natural processes and materials as a way to understanding our earth.

Course Outcomes:

- Identify and classify common earth materials and the processes that form them, by interpreting the evidence within the rocks themselves
- Explain plate tectonic theory and begin to apply the principles in understanding earth materials and processes
- Describe the essential nature of planet earth in terms of physical and chemical composition, and the distribution of materials within and on earth
- Identify and explain the basic principles of spatial, temporal, and dynamic thinking about planet earth
- Begin to develop a questioning approach to interpreting information about the physical earth and "think like a geologist"

Brightspace Learning Management System (LMS):

Online quizzes, important course announcements, and discussion forums are delivered through the Brightspace Learning Management System. Lecture PowerPoint slides will be posted, but lecture recordings will not. Links to texts and videos that will aid your learning will be posted. In case of a missed class, these are essential for keeping caught up.

Student Declaration of Absence:

This course has opted into the student declaration of absence in lieu of sick notes for the in-class test. This mechanism is meant to substitute for sick notes from a doctor related to short absences (less than three days) and does not provide an automatic exemption from any missed assessments. Accommodating the absence is at the discretion of the course instructor. Student Declarations of Absence are only necessary for the in-class test (see the dropbox under "Assignments"). SDAs are not required for missed Labs or classes (see below).

Evaluation

Evaluation components	%
Labs	35
Exercises (7 labs)	18
Lab Quiz 1	7
Lab Quiz 2	10
In class exercises	15
Midterm test	20
Final Exam	30

Marks will NOT be reweighted at the end of term. The mark you earn is the mark you receive.

Note: You MUST pass BOTH the lab component and the non-lab component in order to pass the course. (50% is a passing grade).

Conversion of numerical grades to Final Letter Grades follows the Dalhousie Common Grade Scale

A+ (90-100)	B+ (77-79)	C+ (65-69)	D (50-54)
A (85-89)	B (73-76)	C (60-64)	F (<50)
A- (80-84)	B- (70-72)	C- (55-59)	

Labs

Labs begin the week of September 16th and are in-person. Due to room capacities, students must attend their assigned lab section. B01: Wednesdays 11:35-2:35; B02: Wednesdays 2:35-5:25; and B03: Fridays 11:35-2:25. Room 2055 Life Sciences Centre.

Mandatory lab manual: Laboratory Manual for Introductory Geology, Ludman and Marshak (4th Edition) is available at the bookstore as either E-book or in print.

[https://bookstore.dal.ca/CourseSearch/?course\[\]=SUB,FALL24,ERTH,ERTH1080,01&](https://bookstore.dal.ca/CourseSearch/?course[]=SUB,FALL24,ERTH,ERTH1080,01&)

The labs are worth a total of 35% of the course grade. Seven lab exercises account for 18% and two in-lab rock and mineral identification quizzes account for 17%. Lab exercises will be completed in small groups and will be graded and returned at the beginning of the following lab period.

Labs will be introduced at the beginning of each lab period, a handout will be provided, and labs are designed to be completed in the 3-hour lab period. Most labs are completed as group exercises. If you require more time, labs will be accepted up to 24 hours after your assigned lab period, but you will need to coordinate with your lab partners. Beyond the 24-hour grace period, labs will be penalized 10%/day up until the following lab period when they will not be accepted. Students who cannot attend lab periods in-person due to illness, family emergency, or other acceptable reason will be given extra time on a case-by-case basis. Contact the lab instructor before the lab period to make alternate arrangements.

In class activities

Throughout the term there will be daily activities and quizzes during class time. These are intended to aid your learning. Each of these activities will be weighted equally. The best 85% of these make up your mark for this component to accommodate absences; there will be **no make-up for in class-activities**. No SDA is necessary.

Midterm test

The midterm is an "in class" and "closed book" test. The date is October 30th. You will need to bring a pen or pencil. Any other requirements will be announced in class and on BrightSpace. There are no make up tests; if you miss a test due to illness, family emergency, or other acceptable reason, the exam will have a higher value (50%). Missed tests require a Student Declaration of Absence (see above).

Final Exam

The Faculty of Science requires all first-year science classes to have a formal exam (December 6th -17th). **Do not make travel arrangements until after the exam schedule is posted** in early October. Accommodations will not be made for students who leave before the scheduled exam. The final exam is cumulative. The exam will be in person and closed book. Required materials for the exam will be announced in class and on BrightSpace.

Alternative Grading Option

An alternative term assignment can be completed before December 1st. This assignment will be weighted at 20% of the final grade and will reduce the midterm and exam by 10% each. The purpose of this assignment is to allow students to demonstrate mastery of the topics covered in this course through assessments not dependent on time constrained, information recall. This assignment will require students to submit updates throughout the semester and a final submission with reflection on December 1st.

Week of	Lectures (MW)	Labs (W/F)	Other
Sept 2	Introduction to Earth Sciences	No Labs	
Sept 9	Plate Tectonics	No Labs	
Sept 16	Minerals and Igneous rocks	Lab 1 – Plate Tectonics	
Sept 23	Igneous Rocks, Melting	Lab 2 – Minerals I	
Sept 30	Igneous and volcanoes	Lab 3 – Minerals II	Truth and Reconciliation Day (Sept 30- no class)
Oct 7	Weathering and Sediments	Lab 4 – Igneous Rocks	
Oct 14	Sedimentary Rocks	Lab Quiz 1 (Minerals)	Thanksgiving (Oct 14- no class)
Oct 21	Depositional Environments	Lab 5 – Sedimentary Rocks	
Oct 28	Metamorphism	Lab 6 – Metamorphic rocks	Midterm test (October 30 th)
Nov 4	Metamorphism	No Labs	
Nov 11	Study Break	Study Break	Study Break
Nov 18	Structural Geology	Lab 7 – Geol Time/Structures	
Nov 25	Geologic Time	Lab Quiz 2 (all Rocks)	
Dec 2	TBD	No Labs	Classes MTW this week
Dec 6-17	Exam: Date TBD		Final Exam (Cumulative)

***Lecture and Lab dates are subject to change.**