GEOL/ENVI 160:
Dynamic Earth & Global Change

Meeting time & location

Mon/Wed/Fri
10:50 – 11:50 am
OLRI 100

Macalester College
Fall 2021

Course Description:
This course provides an introduction to the materials and structure of the Earth and to the processes acting on and in the Earth to produce change. Emphasis is placed on the evolution of landforms and the formation of Earth resources. Discussions focus on the important role of geologic processes in the solution of environmental problems. Required for geology majors. Local field trips.

Professor Anna Lindquist

I prefer to be called Anna *(she/her/hers)*
If you prefer to be more formal, you are welcome to call me Dr. Lindquist or Professor Lindquist.

Office Hours
Tuesday 10 am - noon and by appointment
I am also able to answer questions via email or to meet on Zoom.
Conditions permitting, I am also happy to set up a time to meet up outside.

I assume you all come to this class with unique sets of skills and experiences. It takes bravery to ask for help when needed. It helps me and enriches the class when you take the time to chat with me about nothing in particular. Both experiences are valuable. I work to respect you and earn your trust when you take the time to talk to me.

Contact Information

Office: OLRI 115
Email: alindqu1@macalester.edu

Phone: 651-696-6333
(x6333 from campus phones)

Course Policies and Information

Technology and Software: Respect is an important aspect of any classroom. When you are using your phone during class, it is disrespectful to me and to the other students. Even if you think you are being sneaky and non-disruptive, I can tell you are checking your phone. Please leave your phone away and on silent during class times.

I will use Moodle as a central hub for our class. Please be sure to check the Moodle page for updates, homework, grades, readings, and other information. Most of the class handouts can also be found in the class google drive folder (linked on the next page).

Late work: I expect your work to be handed in when it is due. If this is not possible, please discuss it with me before the deadline.

Missed classes: If you miss a class, it is your responsibility to get the material that we covered. If possible, please contact a classmate for to get the information before contacting me. Missing too many classes without documented cause can affect your final grade.

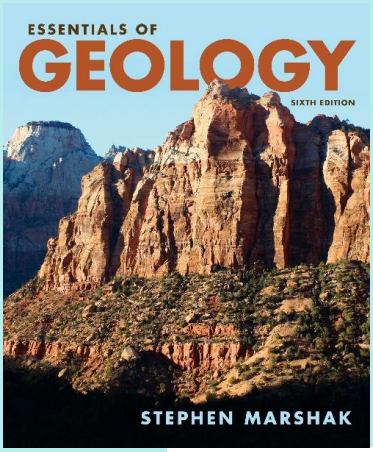
Email: I will do my best to respond to emails in a timely manner, but please allow 24 hours for an email response (longer on weekends).

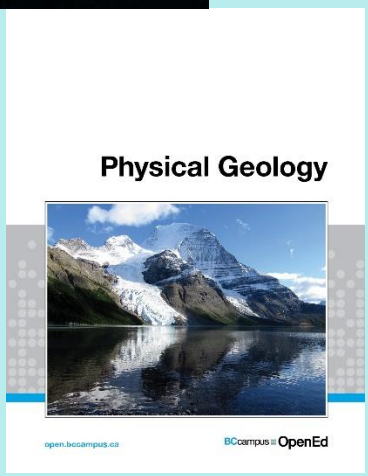
Field trip: Weather permitting, we'll take one Friday, full day field trip around Minnesota on **October 1st**. You will also have a short introductory field trip during lab time in the first week.

Preceptor: We hope to have four preceptors for this course. They will help with labs, offer additional office hours, and help with grading.

Course Materials

There are two options for textbooks in this course (you only need one): *Essentials of Geology, 6th ed.* by Steven Marshak (paid, physical textbook).
Physical Geology by Steven Earle (a free online textbook).





Learning Objectives

Students will…

- … use plate tectonics to explain the features, processes, and activity at Earth's surface.
- … interpret rocks and surface features visible at Earth's surface to describe subsurface features and/or past environments on Earth.
- … name common Earth materials, and understand how they weather and are transported across Earth's surface.
- … describe the movement of water across Earth's surface and how it shapes common features

Tentative Course Schedule

This is subject to change, but outlines the general plan for the course and the associated labs.

Week	Days	Topic	Lab
1	Sep 1-3	Welcome & Intro	No lab this week
2	Sep 6-10	*No class Monday* Plate tectonics	St. Anthony Falls
3	Sep 13-17	Minerals	Minerals
4	Sep 20-24	Magma & igneous rocks	Igneous Rocks
5	Sep 27-Oct 1	Volcanoes & igneous rocks	Magma
6	Oct 4-8	Weathering, soil, sedimentary rocks	Sed & Metm Rocks
7	Oct 11-15	Fossils & metamorphic rocks	Rock Quiz
8	Oct 18-22	Folds & faults *Fall break: no class Thurs/Fri*	No lab this week
9	Oct 25-29	Geologic time	Topo Maps
10	Nov 1-5	Streams & floods	Geol. Structures
11	Nov 8-12	Groundwater & deserts	Geol. Mapping
12	Nov 15-19	Glaciers & beaches	Geol. Mapping
13	Nov 22-26	Mass wasting/slope failure Thanksgiving: no class Wed-Fri	Slope Failure
14	Nov 29-Dec 3	Earthquakes & earth's interior	Groundwater
15	Dec 6-10	Climate change & natural resources	SEM demo
Final	Thurs, Dec 16	Final, 10:30 am – 12:30 pm	

Class Links

Moodle: https://moodle.macalester.edu/

Google Drive folder:
https://drive.google.com/drive/folders/1TVSWuvfQwi2AIUFgUrW6cX1B1SzfGXNT?usp=sharing

Covid/mask Policy: Please wear your mask in class and in lab. I have two kids who cannot receive the vaccine (yet), and this extra layer of protection is important to me. Also, please do not come to class if you are feeling sick. I would much rather catch you up later! I will do my best to accommodate smart covid decisions in any way I can.

Grades

My goal is that you leave this course with a better understanding of the processes and materials that shape Earth. I believe this is best achieved by giving you many opportunities to work with the course content, collaborate with others, and try new things. Studies have shown that grading each assignment and each question does not improve learning outcomes; students get so focused on what their grade is, they don't focus on the course content. Getting things wrong is an important part of the learning process. Having the freedom to incorporate your own ideas and experiences without concern for how it matches the "correct" answer enables you to build a more robust understanding of the topics we'll address. With all of this in mind, I plan to use something called "Contract for a B." This grading plan outlines a set of expectations. If met, you will receive a B for this course. If you go above and beyond (also outlined), you can earn an A. A significant part of the work for this class will be done in collaboration with others. Please be aware that you will not be able to coast through on group work by letting the rest of your group handle the group assignments.

Note: Please tell me if you need accommodations, if you would like to take the class pass/fail, or if you have a different grade as your goal. We will determine a plan that works for you.

You are **guaranteed a grade of B** in this course if you meet all of the following conditions.

- Come to and engage in class and lab.
    - I understand that life happens and you may not be able to attend every class and lab meeting. However, missing more than five class meetings will impact your grade. Missing more than one or two lab sessions will also negatively impact your grade.
    - Excused absences, accommodations, etc… can influence the number of days you need to miss class. If you need flexibility on this requirement, feel free to reach out to so we can find a workable solution.
    - Engaging in class and lab includes: participating in class and lab, doing the readings, asking or answering questions, doing the in-class activities, and participating in the field trips.
    - Attendance includes coming on the field trip – it is expected that you will come on the field trip. Please let us know early if you have scheduling conflicts.
- Complete the weekly labs thoughtfully, completely, and (mostly) correctly.
    - Each lab is due at the start of the following lab section (one week after you start it), except for the geologic mapping lab toward the end of the semester (this lab takes two weeks).
    - Each week there will be a lab. You will work on these with you lab group and on your own time (hopefully also with your group).
    - Labs will be entered in the gradebook on a scale of 3 (check minus, check, check plus) based on the quality of the answers and whether or not the assignment was late. No more than two labs can have a score of 1.
- Complete the quizzes and tests with ~75% of the questions answered correctly (total, not per quiz)
- A grade of at least 75% on the final.
- **A note on late work**: Life happens. You have a week's worth of days to turn assignments in late (in other words, you could turn in one assignment a week late OR two assignments 3-4 days late OR seven assignments 1 day late). Please notify me if you will be turning something in late.
    - This requirement can be modified for those with accommodations or extenuating circumstances.
- **To get an A** you must do everything listed above for a B, and an end of semester project on a topic related to geology (more information about this project will be released later in the semester).

Pluses and minuses in final grades: depth of answers to questions, number of missed/late assignments, degree of participation in class, attendance, etc...

Accommodations

I am committed to ensuring access to course content for students.

I am committed to ensuring access to course content for all students, including those with disabilities. If you have a disability, please meet with me early in the semester to discuss your accommodation plan. If you have not yet obtained a plan or are unsure if you have a disability that requires accommodation, please contact Disability Services: disabilityservices@macalester.edu, or call 651-696-6974.

Mental Health

I strongly encourage you to make your well-being a priority. Investing time in thinking well about yourself will help you engage more fully in your academic experience, especially during this complicated time. Remember that beyond being a student, you are a human being with your own experiences, thoughts, emotions, and identities. It is important to acknowledge any stressors you may be facing; these can be emotional, physical, cultural, financial, etc., and can affect your academic experience. I encourage you to remember that you have a body with needs. It is important to eat when you are hungry, drink water, use the restroom, and step out of (or away from) class if you are upset or need some air. Please do what is necessary so long as it does not interfere with your or others' ability to be present in the course. Outside of the classroom, strategies to support your well-being include eating and sleeping well, moving your body, and connecting with others. If you are having difficulties, please don't hesitate to contact me and/or find support from other resources, including those offered by the Hamre Center.

Inclusion

I strive to maintain a classroom environment that is inclusive of all students. This includes religious, political, racial, socioeconomic, and gender diversity. Please feel free to reach out if you feel you need accomodations (i.e. for religious holidays) or if I have not achieved this goal. If you prefer to be anonymous, use the course feedback link at the top of the moodle page. Every semester, I continue to work and learn about the best ways to be inclusive and supportive of all students in my classroom.

If needed, Macalester also has a Bias Response Team to support anyone who feels they have been affected by an incident of bias (https://www.macalester.edu/bias-response-team/).

Other Notes

Attendance plays an essential role in learning; you are warmly invited, encouraged, and expected to attend all synchronous class/lab meetings (whether in-person or virtual). Attendance will be important not only for your learning, but also for our ability to build a community together and maintain a sense of connection and commitment to one another during this time of imposed physical distance. Your presence in class matters.

The MAX Center is Macalester's academic resource center. I strongly encourage you to take full advantage of any and all of the excellent resources they provide there, as they are committed to supporting all students to succeed at Macalester.