

Syllabus for Honors Geology 51-110, Spring 2023
Section: A09C, A01L, A01D (5 credits)

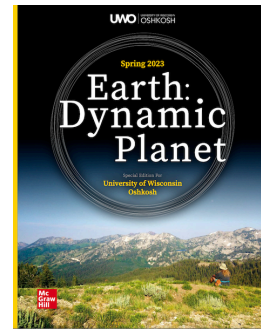
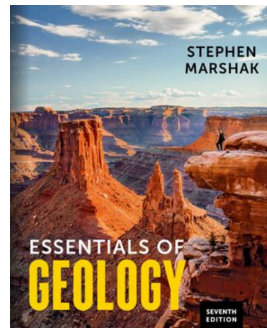
Instructor: Dr. Ben Hallett

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Office Hours (in Harrington 216): Mon 2:00pm–3:00pm and
Thurs 11:15am–12:15pm (or by appointment)



Schedule: Lectures Tue/Thu 9:40-11:10am, Harrington 217
Lab: Tue 3:00–5:10pm, Harrington 113
Discussion Thu 3:00–4:00pm, Harrington 217

Description: This course provides the scientific foundation to understand how the earth works and why geologic events occur when and where they do. It is divided into three areas of study. The first considers the materials which make up the earth and the processes that produce them. These materials include the common minerals and rocks of the earth as well as the scarce ones that are so important for our economy. Next, a thorough treatment of internal earth processes provides the foundation for understanding the large-scale motions and upheavals of the earth including continental drift, the formation of mountains, eruption of volcanoes, and the origin of earthquakes. The third part of the course studies the surface processes that wear down the mountains and sculpts our landscape into varied and interesting configurations we see today. The laboratory provides hands-on experience with the three aspects of geology and introduces the student to geological methods of scientific inquiry. A field trip is part of the laboratory class. Prerequisite: Enrolled in good standing with the UW Oshkosh Honors program with prior or concurrent enrollment in HNRS 175. Students may receive credit for only one of the following courses: Geology 102, 110 or 150. Students cannot earn credit in both an honors course and a non-honors course of the same title. Special Fees may apply.

Textbooks:

1. Essentials of Geology, 2022, 7th edition by Stephen Marshak, published by W.W. Norton and Company. ISBN: 978039882735

- The color, print loose-leaf paper version is optional but ***STRONGLY recommended*** and is a great value (includes e-book and Smartwork5). Bound paperback available from the publisher or Amazon (7th edition ***only*** has required Smartwork plus ebook access).
- The online only e-book version is available for \$60 through the publisher's website linked from Canvas. If you purchase this you have included access to Smartwork5 (**required** reading quiz assignments).

2. Earth: Dynamic Planet (Physical Geology 102 Custom Manual), 2023, 8th edition by Jones and Jones, McGraw Hill Publisher. ISBN: 9781307875812 (Required Custom Lab Manual).

- This is an updated, customized edition for our lab and costs less than the normal edition. This paper version from the UWO bookstore is ***the only edition that is acceptable. It must say "Special Edition For UW Oshkosh" on the cover. ***Note: a used, borrowed, or shared lab manual is NOT acceptable for the course.***

3. Timefulness: How Thinking Like a Geologist Can Help Save the World, 2018, 1st Edition by Marcia Bjornerud, published by Princeton University Press, ISBN: 9780691181202

4. Additional selected readings will be posted on Canvas.

About this course

This course provides an introduction to geology as a science and an overview of its basic principles. Many topics are unified by a theme of how the earth system changes through time, with implications regarding sustainability of earth resources. The lab portion of the course is designed to provide training and practice in applying scientific inquiry to the earth and to practice analytical reasoning and quantitative problem solving. Students will increase knowledge of the physical world and develop valuable skills including critical thinking, written communication, quantitative and technical literacy, teamwork, and problem solving. *These are the Essential Learning Outcomes for the course.*

Course Objectives: By the end of the course, as a student you will be expected to...

- analyze geologic data and hypothesize explanations for these data
- explain the roles played in Earth history by plate tectonic, earth-surface, and biologic processes
- evaluate ways in which geology influences your life and ways in which humans influence geologic systems
- describe connections between geology and other areas of human endeavor such as art, literature, and politics
- outline major events in the history of the Earth
- discuss a global picture of the world's energy and natural resources and how they are critical to the **sustainability** of modern society.
- review the geologic impact of past and projected future changes in earth's climate and how the present outlook relates to issues of **sustainability** and earth resources.

USP Explore “Nature” Course: Honors Geology 110 fulfills an Explore “Nature” requirement for the University Studies Program (USP). The signature question: ***How do people understand and create a more sustainable world? What does this mean?*** The broad topic of sustainability is defined by the UK's Forum for the Future, (2006) as “a dynamic process which enables all people to realize their potential and improve their quality of life in ways which simultaneously protect and enhance the Earth's life support systems”. In this course we will explore this topic as it relates to society's relationships to the earth system through time.

As part of a USP Explore Course, you are participating in liberal education. This approach is designed to provide you with the opportunity to discover the world around you from different perspectives while giving you an ability to communicate with people of different backgrounds, putting their expertise in context. This course has been structured to help you learn about geologic history, geologic processes, and sustainability of earth resources, but also to learn to ask questions, make observations, collect data, and begin to synthesize and apply your knowledge to better understand our world. These skills relate not just in earth and other sciences but can be applied to life in general to make you an effective problem solver who can think critically.

In addition to being a USP Explore Course with the **Sustainability** signature question, this course also fulfills requirements for all majors and minors in Geology (including Secondary Earth Science Education) and fulfills a Natural Science **Laboratory Science** course requirement of the College of Letters and Sciences.

Course Components:

- **Lecture** – Tue/Thu 9:40-11:10am, Harrington 217. Thanks to the limited size of the class, lectures are intended to be interactive, with open discussion and questions. Student participation is required.
- **Labs** - “Hands on” lab work is an essential part of physical geology. In lab you will learn to make observations and directly experience many of the principles addressed in the readings and in lecture.
- **Online Homework** - Assigned through Norton’s Smartwork system and Canvas, you will have regular assignments based on the readings that are due prior to lecture topics.
- **In-Class Exercises and Written Homework** – Assignments/questions to help you develop an understanding of key course concepts.
- **Field Trip** - Plan on attending a full day field trip to the Baraboo, Wisconsin area (dates to be announced) and completing the field trip assignment.
- **Discussion** –Discussion attendance is required and the time will be used to discuss accompanying readings (i.e. Bjornerud) and activities related to applications and research in geology. Reading reflections will be given at the start of most discussions.

Laboratory Info:

Attendance: in lab is mandatory. If you know ahead of time that you must miss a lab, you must contact your lab instructor **before your lab meets** to discuss your options, and you will not receive credit unless a makeup plan is agreed upon.

Lab Assignments: Read through the assigned laboratory reading BEFORE coming to lab. A brief introduction will be given with the assumption that you will have already read the material. Unannounced quizzes on the week’s lab assignment may be given at the start of lab so be sure you are prepared. Labs are informal and involve hands-on and group work. You must work well with others and show respect to fellow students and instructors.

Lab Quizzes: There are 4 scheduled lab quizzes (see course schedule). The quizzes will occur at the start of the lab. There will be a lab exercise following the quiz, which will be announced ahead of time. If you miss a lab quiz due to illness or extenuating circumstances, **it is your responsibility to contact me before the start of lab that day**; failure to do so may result in a **score of zero** for that quiz. Make-ups due to illness REQUIRE prior agreement with me, or a signed doctor’s note.

Expectations:

- My expectations for you: Success in this course requires good attendance and a significant investment of time beyond scheduled class. The National Survey of Student Engagement suggests that there is a disconnect between faculty and student expectations in terms of time spent out of the classroom. Throughout this course, I expect that you spend a minimum of **two to three hours** outside of class reading/studying and preparing **per hour spent** in the classroom. With this course being a 5 credit course, **you should be studying 10–12 hours per week in addition to lecture, discussion, and lab.**

- What you can expect from me: I want all students to feel welcome and included in the course whoever you are or how much of a science background you have. I try my hardest to be available when you might need help. I want students to visit and ask questions at my office hours, before/after class, and via email. My goals are the following: to be enthusiastic about course material, to present material in an organized way, to provide resources you need to be successful, to respond quickly, to set a high standard for the course and help you meet those standards, and to be fair and respectful. Please note that I have high standards for Honors Geology and my feedback will reflect this. That said any student who applies themselves in and out of class and engages with the material can meet those expectations. Please contact me if you have any questions or concerns about the course material or feedback.

Requirements and Grading

Attendance: Attendance is required without prior valid excuse. Make up work will not be given. Any failure to attend class will negatively impact your grade. Please feel free to ask questions at any time, including during lecture; however, ***disruptive behavior, including talking during lecture or labs or inappropriate browsing/text messaging, is not acceptable*** and will result in a lower course grade.

Kahoot: We will use Kahoot to occasionally reinforce key course concepts in class. Kahoot is available on any web-enabled or smart device. Details will be announced in class, but ***you are responsible to bring your device to each lecture (works best on smartphone but laptop is ok)***. In order to assure you qualify for any credit, you must: use your UWO netID as a nickname.

Online Homework: These assignments help you keep up with the reading and course material in preparation for lectures, and are given through the Smartwork5 system and Canvas. The assignments are due **at the start of lectures for the due date**, and they strictly follow the lecture schedule at the end of your syllabus.

Exams: The lecture exams are weighted equally. The exams test your ability to grasp concepts, apply terminology, and solve problems. If you fail to take good notes, participate in class, complete the homework, or gain a reasonable understanding of the material you will struggle on the exams.

The tentative lecture exam schedule (subject to change) is:

- Exam 1: Tuesday, Feb 28
- Exam 2: Tuesday, April 4
- Exam 3: Thursday, May 11

If you have a valid excuse and must miss an exam, you must contact me BEFORE the exam date. Only if you have a valid excuse, may you get approval to take a makeup exam.

Grade Basis: Your course grade will be based on three lecture exams (45 points), assignments (30 points total for online homework, projects/papers, field trip, discussion, and attendance/in-class exercises), plus your lab grade including lab participation and lab quizzes (25 points).

Grade scale: 93% and up = A; 90–92 = A-; 87–89 = B+; 83–86 = B; 80–82 = B-; 77–79 = C+; 73–76 = C; 70–72 = C-; 67–69 = D+; 63–66 = D; 60–62 = D-; <60% = F

Course Policies:

Academic Integrity: The Wisconsin Administrative Code states: “Students are responsible for the honest completion and representation of their work, for the appropriate citation of sources, and for respect of others academic endeavors.” (§ UWS 14.01) **Plagiarism** and other forms of **academic misconduct** are serious offenses with severe penalties. See the University of Wisconsin Oshkosh Student Discipline Code for definitions of academic misconduct and details about procedures, sanctions, and other relevant information:

<http://www.uwosh.edu/deanofstudents/university-polices-procedures/academic-misconduct>.

Specific questions about the Student Discipline Code should be directed to the Dean of Students Office. If you do not understand this statement, please see me as soon as possible.

Email: I will do my best to respond to email within one day. If you have an urgent situation please come to my office or send an email that describes your situation. When you email me please tell me your full name. Also, please understand that email is not the same as a text/instant message, it is a business/academic document. Incoherent emails that are written with incomplete sentences, no punctuation, or text message abbreviations will not get responses.

Classroom Considerations for Spring 2023:

- All students are required to follow Campus health regulations and adhere to any additional expectations communicated by the instructor or posted in the classroom. These apply during class/lab meetings as well as all other times in the laboratory.
- Disinfecting Workspaces in Classroom and Lab: Students may disinfect their workspace prior to the start of each class using the wipes provided. Due to the sharing of lab materials and samples students are encouraged to regularly sanitize hands and disinfect workspaces.
- ***Eating is prohibited in classrooms and labs during class and lab periods—please eat outside of class time.***

Regarding Diversity, Equity & Inclusion: Diversity drives innovation, creativity, and progress. At the University of Wisconsin Oshkosh, the culture, identities, life experiences, unique abilities, and talents of every individual contribute to the foundation of our success. Creating and maintaining an inclusive and equitable environment is of paramount importance to us. This pursuit prepares all of us to be global citizens who will contribute to the betterment of the world. We are committed to a university culture that provides everyone with the opportunity to thrive.

Disclosure Statement: Students are advised to see the following URL for disclosures about essential consumer protection items required by the Students Right to Know Act of 1990:

<https://uwosh.edu/financialaid/consumer-information/>

Course Resources:

Canvas: Course information, supplementary links, notes, and grades will be made available on Canvas. Please check Canvas first before making requests for material or grades. Canvas' final calculated grade may not reflect all grade assignments for the course. We will not use Canvas for messaging or discussions. Please contact me directly by email (not through Canvas).

Geology Tutoring: Geology student tutors offer optional free study/tutoring sessions several evenings each week in Harrington 113 or 114. Exact times will be announced in lecture/lab.

Additional online resources: Some additional resources are provided in the "helpful links" on Canvas. There are many online resources for learning physical geology and if you find something new and exciting, please explore and consider sharing with me and your classmates.

Early Alert: The University's Early Alert program reaches out to students after the first 5 weeks of classes to help identify academic performance or attendance issues. It is common for students to be unaware or to over-estimate their academic performance in classes so this program is designed to help. If you receive a notice by email, read it carefully, and if you receive an alert it is critical that you make arrangements to meet with me and/or a counselor to help develop an action plan.

Special Accommodations: Reasonable accommodations will be made for students with disabilities. Please contact the Accessibility Center (424-3100 (voice) or 424-1319 (TTY)) or visit their web site at <http://www.uwosh.edu/deanofstudents/Accessibility-Center> for the University's accommodation request form and documentation requirements. Information related to an individual's accommodation request will be kept confidential.

Other resources are available. Please ask for help if you need it! If you have a course-related issue I will make every effort to help you resolve it or to direct you to the help you need.

Tentative Lecture/Lab Schedule:

Week of	Topic	Reading	Tuesday Lab Topic and Reading	Reading Quiz Smartwork5 / HW
Jan 30	Earth in space/time, how our planet is constructed, Theory of plate tectonics	Ch. 1 + 2	Tectonics, Isostasy	SW1 due 9:40am 2/2
Feb 6	Atoms, compounds, minerals (building blocks of earth materials), magma	Ch. 3	Minerals JJ Ch. 1–2	SW2 due 5pm 2/6
Feb 13	Igneous rocks, volcanoes and volcanic hazards	Ch. 4 + 5	Igneous Rocks JJ Ch. 3	SW3 due 5pm 2/13
Feb 20	Weathering, Soil, and Sedimentary Rocks	Int. B, Ch. 6	Min/Rock – Quiz1 Topo Maps Ch. 6	SW4 due 5pm 2/20
Feb 27	Exam 1 (Feb. 28); Metamorphism and Metamorphic rocks	Ch. 7	Sedimentary Rocks JJ Ch. 4	SW5 due 9:40am 3/2
Mar 6	Earthquakes and Earthquake Hazards	Ch. 8	Metamorphic Rocks, JJ Ch. 5	SW6 due 5pm 3/6
Mar 13	Geologic Structures, folds, faults, stress, strain, mountains	Ch. 9	Earthquakes JJ Ch. 12	SW7 due 5pm 3/13
Spring Break 3/20–3/24: No Lecture/Lab/Discussion				
Mar 27	Streams, Rivers, Floods, and Groundwater	Ch. 14 + 16	Rocks/EQ – Quiz2 Streams, JJ Ch. 8	SW8 due 5pm 3/27
Apr 3	Exam 2 (Apr. 4); Geologic Time and Fossil Successions	Ch. 10	Groundwater JJ Ch. 9	SW9 due 9:40am 4/6
Apr 10	Geologic Time and Absolute Dating; Glaciers and Ice Ages	Ch. 18	Geo. Time JJ Ch 13	SW10 due 5pm 4/10
Apr 17	Precambrian Earth and Life; Paleozoic Earth	MW Ch. 19 +20	Strms/GW/Time Q3 Glaciers Lab (Canvas)	HW11 (Canvas) Due 5pm 4/17
Apr 24	Paleozoic Life; Mesozoic Earth and Life	MW Ch. 21+ 22	Paleozoic fossils lab (Canvas)	HW12 (Canvas) Due 5pm 4/24
Field Trip (tentative) Tuesday April 25 8am–6pm				
May 1	Cenozoic Earth and Life; Earth systems and Climate	Mk Ch. 12; MW Ch. 23	Mesozoic and Cenozoic fossils lab (Canvas)	HW13a (Canvas)+SW13b Due 5pm 5/1
May 8	Earth Resources and Climate; Exam 3 (May 11)	Ch. 19	Fossils and Glaciers – Quiz4	SW14 Due 5pm 5/8

Important dates: 1/30/23 classes begin; 2/3/23 last day to add without instructor's signature; 2/24/23 last day to add with instructor's signature; 3/6/23 early alert due; 3/15/23 last day to drop; 3/20/23–3/34/23 Spring Break; 4/25/23 Tentative Class Field Trip; 5/12/23 Classes end.