

# GEOL 104: Physical Geology

## Spring 2022 Syllabus

**Important Note:** This syllabus, along with course assignments and due dates, are subject to change. It is the student's responsibility to check Canvas for corrections or updates to the syllabus. Any changes will be clearly noted in a course announcement or through email.

### Course Information

#### Instructor Information

Instructor: **Lisa Siewert**

Office: **D256 Science Hall**

Office Hours: In-person on Thursdays 9:30-10:30am or virtually Wednesdays 9:30-10:30am. If those times don't work for you, email me and we can arrange a different time to meet. **Use the information below to access the virtual office hours:**

<https://wisconsin-edu.zoom.us/j/6367047890?pwd=Z2xjZXRtWWIxclR6T0x4aFo2b1Zndz09>

Meeting ID: **636 704 7890**

Passcode: **geology**

E-mail: [lsiewert@uwsp.edu](mailto:lsiewert@uwsp.edu) This is my preferred method of communication.

#### Course Information

**Course Description:** GEOL 104 (Physical Geology) is a 4-credit natural and laboratory science that will fulfill requirements for the laboratory science credits. This course will cover the physical nature of Earth. We will discuss topics that include the processes in operation above, on, and beneath the surface of Earth that continue to shape its physical evolution (e.g. plate tectonics, volcanism, faulting and earthquakes, glaciation, running water); the origin and nature of common minerals and rocks and their distribution in the world; and landscapes and their origins (e.g. mountain ranges, glacial forms, river valleys, etc.). Lab work will include the study of common rocks, minerals, interpretation of geological and topographic maps, along with data, map, and chart analysis.

**Credits:** 4 credits

**Prerequisite:** none

#### Expected Instructor Response Times

- I will attempt to respond to student emails within 24 hours.
  - \*\*\*If you have a general course question (not confidential or personal in nature), please post it to the Course Q&A Discussion Forum found on the course homepage. I will post answers to all general questions there so that all students can view them. Students are encouraged to answer each other's questions too.
- I will attempt to reply to and assess student discussion posts within 48 hours of discussions closing.
- I will attempt to grade exams, homework, and lab work within 72 hours.

#### Textbook & Course Materials

**Required Text:** Earth by Tarbuck 13<sup>th</sup> edition. In addition, instructor commentaries and open educational resources are available on Canvas.

## Course Learning Outcomes

After successful completion of the course, students will be able to:

1. Define selected vocabulary from the assigned chapters and employ them in understanding and explaining topics.
2. Discuss the basic principles of scientific inquiry and apply them to current research and to past discoveries of theories.
3. Differentiate between the three types of plate boundaries by noting common geologic features and processes. Summarize how these boundaries form.
4. Classify common physical properties and differentiate minerals and rocks.
5. Summarize the relationship between the chemical and physical properties of minerals.
6. Analyze igneous, metamorphic, and sedimentary rocks to determine how they formed.
7. Compare how different types of magma form and explain their relationship to the formation of intrusive and volcanic igneous features.
8. Compare and contrast weathering among different rock types and different environments.
9. Identify strata, faults, and folds in geologic sections and summarize the forces and tectonic settings that lead to their formation.
10. Apply the principles of relative dating to interpret the geologic history of a cross-section. Understand the application of radiometric dating to the geologic time scale.
11. Explain what causes earthquakes and earthquake destruction and apply the correct procedures to locate the source and calculate the magnitude of an earthquake.
12. Differentiate the internal structure and composition of the Earth.
13. Compare and contrast depositional and erosional environments, features, and processes associated with streams and shorelines.
14. Explain the various parts of the hydrologic cycle including the interaction of surface and groundwater with the solid Earth.

## General Education Program Learning Outcomes

1. students will be able to explain major concepts, methods, or theories in the natural sciences to investigate the physical world.
2. students will be able to interpret information, solve problems, and make decisions by applying natural science concepts, methods, and quantitative techniques.
3. students will be able to describe the relevance of aspects of the natural sciences to their lives and society.

You will meet the outcomes listed above through a combination of the following activities in this course:

- **Lab:** The lab activities will be conducted in-person. You will submit worksheets for your labs on Canvas or in-person. If you can, bring a laptop or other computing device (smartphone or tablet) with you to lab.
- **Mineral & Rock Quiz:** We will spend 7 lab sections on rocks and mineral, with the final of those consisting of a rock identification quiz.
- **Discussions:** There are a handful of discussions. The discussions have two components: the initial post and the replies. Each component has a separate due date. The first due date is the date by which your initial post should be submitted. The initial post is your answer to the discussion prompt. The replies are your responses to me and your fellow students. It is recommended to respond to at least three other students.
- **Midterm Exams:** There will be two midterm exams that cover the topics presented in this course. The exam is designed to be completed within the 75-minute lecture period. A study guide with potential short-answer questions will be provided.

- **Final Exam:** There will be a cumulative final exam held during our scheduled final exam period. The final exam is divided into three sections with section 1 corresponding to Exam 1, and section 2 corresponding to Exam 2. You can replace one of your midterm exam scores by scoring a higher percentage on that section. (If you improve on both sections, I will replace the one that helps your grade improve the most. If you don't score a higher percentage on any of the sections—your midterm exam scores will NOT be replaced by a lower percentage.)

## Topic Outline

**Important Note:** Refer to the Canvas course home page for pertinent information. Activity and assignment details will be explained in detail within each week's corresponding Module. As tasks come due, they will appear in your "to do" list. If you have any questions, please contact your instructor.

Lesson 1	Introduction to Physical Geology
Lesson 2	Plate Tectonics
Lesson 3	Matter and Minerals
Lesson 4	Volcanoes
Lesson 5	Igneous Rocks
Lesson 6	Weathering
Lesson 7	Sedimentary Rocks
Lesson 8	Metamorphic Rocks
Lesson 9	Crustal Deformation
Lesson 10	Earthquakes
Lesson 11	Geologic Time & Earth's History
Lesson 12	Streams
Lesson 13	Groundwater
Lesson 14	Geologic Resources
Lesson 15	Coastal Processes
Lesson 16	Glaciation

## Student Expectations

In this course you will be expected to complete the following types of tasks.

- attend lectures in-person, take notes, and ask questions
- review the lesson learning materials
- communicate via email
- complete basic internet searches
- download and upload documents to Canvas
- prepare for exams by understanding how to answer the study guide questions
- participate in asynchronous online discussions

## Course Structure

This course will be delivered in person in via twice weekly lectures and one weekly lab activity. Learning materials and some assessments are accessed and completed online through the course management system, Canvas. You will use your UWSP account to login to the course from the [Canvas Login Page](#). If you have not activated your UWSP account, please visit the [Manage Your Account](#) page to do so.

## Technology

### UWSP Technology Support

- Visit with a [Student Technology Tutor](#)
- Seek assistance from the [IT Service Desk](#) (Formerly HELP Desk)

- o IT Service Desk Phone: 715-346-4357 (HELP)
- o IT Service Desk Email: [techhelp@uwsp.edu](mailto:techhelp@uwsp.edu)

## Grading Policies

### Graded Course Activities

Click the **Assignments** link in Canvas to access assignment listing, categories and weights as applicable. Click the **Syllabus** link to see a chronological listing of assignments. Click the **Grades** link to see current grades.

### Participation

Students are expected to participate in all in-person and online activities as listed on the course calendar.

### Complete Assignments

**All assignments for this course will be submitted electronically through Canvas unless otherwise instructed.** Assignments must be submitted by the given deadline or special permission must be requested from instructor *before the due date*. Extensions will not be given beyond the next assignment except under extreme circumstances.

All discussion assignments must be completed by the assignment due date and time. Late or missing discussion assignments will affect the student's grade.

### Late Work Policy

Be sure to pay close attention to deadlines—there will be no make-up assignments or exams. Late work will be accepted with a penalty of 10% loss in overall points for each day late.

### Viewing Grades in Canvas

Points you receive for graded activities will be posted to Grades. Click on the Grades link to view your points.

Your instructor will update the online grades each time a grading session has been complete—typically 3 days following the due date of an assignment. You will see a visual indication of new grades posted on your Canvas home page under the link to this course.

### Letter Grade Assignment

Final grades assigned for this course will be based on the percentage of total points earned and are assigned as follows:

A	94-100%	B	84-87%	C	74-77%	D	64-67%
A-	90-93%	B-	80-83%	C-	70-73%	F	< 64%
B+	87-89%	C+	77-79%	D+	67-69%		

## Course Policies

### Build Rapport

If you find that you have any trouble keeping up with assignments or other aspects of the course, make sure you let your instructor know as early as possible. As you will find, building rapport and effective relationships are key to becoming an effective professional. Make sure that you are proactive in informing your instructor when difficulties arise during the semester so that we can help you find a solution.

## Understand When You May Drop This Course

It is the student's responsibility to understand when they need to consider unenrolling from a course. Refer to the UWSP [Academic Calendar](#) for dates and deadlines for registration. After this period, a serious and compelling reason is required to drop from the course. Serious and compelling reasons includes: (1) documented and significant change in work hours, leaving student unable to attend class, or (2) documented and severe physical/mental illness/injury to the student or student's family.

## Incomplete Policy

Under emergency/special circumstances, students may petition for an incomplete grade. An incomplete will only be assigned if 50% of the course assignments have been completed by the end of the semester. All incomplete course assignments must be completed within a semester after the incomplete was assigned.

## Inform Your Instructor of Any Accommodations Needed

If you have a documented disability and verification from the [Disability and Assistive Technology Center](#) and wish to discuss academic accommodations, please contact your instructor as soon as possible. It is the student's responsibility to provide documentation of disability to Disability Services and meet with a Disability Services counselor to request special accommodation *before* classes start.

The Disability and Assistive Technology Center is located in 609 Albertson Hall and can be contacted by phone at (715) 346-3365 (Voice) (715) 346-3362 (TDD only) or via email at [datctr@uwsp.edu](mailto:datctr@uwsp.edu).

### **Statement of Policy**

UW-Stevens Point will modify academic program requirements as necessary to ensure that they do not discriminate against qualified applicants or students with disabilities. The modifications should not affect the substance of educational programs or compromise academic standards; nor should they intrude upon academic freedom. Examinations or other procedures used for evaluating students' academic achievements may be adapted. The results of such evaluation must demonstrate the student's achievement in the academic activity, rather than describe his/her disability.

*If modifications are required due to a disability, please inform the instructor and contact the Disability and Assistive Technology Center in 609 ALB, or (715) 346-3365.*

## Commit to Integrity

As a student in this course (and at this university) you are expected to maintain high degrees of professionalism, commitment to active learning and participation in this class and also integrity in your behavior in and out of the classroom.

## UWSP Academic Honesty Policy & Procedures

### **Student Academic Disciplinary Procedures**

UWSP 14.01 Statement of principles

The board of regents, administrators, faculty, academic staff and students of the university of Wisconsin system believe that academic honesty and integrity are fundamental to the mission of higher education and of the university of Wisconsin system. The university has a responsibility to promote academic honesty and integrity and to develop procedures to deal effectively with instances of academic dishonesty. 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. Students who violate these standards must be confronted and must accept the consequences of their actions.

UWSP 14.03 Academic misconduct subject to disciplinary action.

(1) Academic misconduct is an act in which a student:

- (a) Seeks to claim credit for the work or efforts of another without authorization or citation;
- (b) Uses unauthorized materials or fabricated data in any academic exercise;
- (c) Forges or falsifies academic documents or records;

- (d) Intentionally impedes or damages the academic work of others;
  - (e) Engages in conduct aimed at making false representation of a student's academic performance; or
  - (f) Assists other students in any of these acts.

(2) Examples of academic misconduct include, but are not limited to: cheating on an examination; collaborating with others in work to be presented, contrary to the stated rules of the course; submitting a paper or assignment as one's own work when a part or all of the paper or assignment is the work of another; submitting a paper or assignment that contains ideas or research of others without appropriately identifying the sources of those ideas; stealing examinations or course materials; submitting, if contrary to the rules of a course, work previously presented in another course; tampering with the laboratory experiment or computer program of another student; knowingly and intentionally assisting another student in any of the above, including assistance in an arrangement whereby any work, classroom performance, examination or other activity is submitted or performed by a person other than the student under whose name the work is submitted or performed.

### Religious Beliefs

Relief from any academic requirement due to religious beliefs will be accommodated according to UWS 22.03, with notification within the first three weeks of class.

### COVID-19 Guidelines

#### **Face Coverings:**

- At all UW-Stevens Point campus locations, the wearing of face coverings is mandatory in all buildings, including classrooms, laboratories, studios, and other instructional spaces. Any student with a condition that impacts their use of a face covering should contact the [Disability and Assistive Technology Center](#) to discuss accommodations in classes. Please note that unless everyone is wearing a face covering, in-person classes cannot take place. This is university policy and not up to the discretion of individual instructors. Failure to adhere to this requirement could result in formal withdrawal from the course.