

Physical Geology (4 credits) Syllabus

Spring 2020

Lecture MWF 11:00-11:50 Rm 374

Lab W 12:00-1:50 Rm 280

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Drop-in hours: **M & F 12:00-1:00**
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Course Description

GEOL 104 (Physical Geology) is a 4-credit natural and laboratory science that will fulfill requirements for the laboratory science credits necessary for your AA&S degree. 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.

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.

Evaluation/Course Requirements

Mid-term Exams: 35% of total course grade

This consists of 3 mid-term exams. Exams will be mostly multiple-choice, matching, and short answer format. No make-up exams will be given. Instead, the final exam will be comprehensive. The final exam will be divided into three sections, with each section containing material covered in exams 1, 2, 3. Should you improve your percentage on one of the sections, then that percentage will replace a previous exam score in the gradebook. For example, if you scored a higher percentage on section 2 of the final exam, then that percentage would replace your exam 2 score. This method will only affect one previous exam.

Final Exam: 15% of total course grade

The final exam will be comprehensive. The final exam will be divided into three sections, with each section containing material covered in exams 1, 2, & 3. Should you improve your percentage on one of the sections, then that percentage will replace a previous exam score in the gradebook. This method will only affect one previous exam. For example, if you scored a higher percentage on section 2 of the final exam, then that percentage would replace your exam 2 score.

Lab: 25% of total course grade

Your lab and assignments grade will count for 25% of your overall course grade and will include 1 lab quiz. You must bring to each week's lab your lab manual, lecture text, and pencils with erasers (pens are strongly discouraged in the lab). Lab is a required component in this course. Missing 4 or more labs will result in failure of the overall course. You will submit worksheets for your labs on Canvas. They are due on the Friday of the week of your lab work.

Assignments: 25% of total course grade

Each unit has at least one reading worksheet, which is a 10-question multiple choice worksheet that covers a chapter in our textbook. These reading worksheets are due on Fridays (see schedule below). You will also be responsible for completing a pre-lab exercise before your scheduled lab section each week. These exercises will help prepare you for your lab assignment that week.

Required Course Materials

All course materials will be provided as online links in Canvas or handed out in class. You do not need to purchase any materials for this course.

Textbook: <https://opentextbc.ca/physicalgeology2ed/> This is an open source, free online textbook. If you would prefer a paper textbook I have several of them from which you can select. Contact me if you would like to borrow a hardcopy textbook for the semester.

Inclusivity Statement

It is my intent that students from all diverse backgrounds and perspectives be well-served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that the students bring to this class be viewed as a resource, strength and benefit. It is my intent to present materials and activities that are respectful of diversity: gender identity, sexuality, disability, age, socioeconomic status, ethnicity, race, nationality, religion, and culture. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally, or for other students or student groups.

If you have experienced a bias incident (an act of conduct, speech, or expression to which a bias motive is evident as a contributing factor regardless of whether the act is criminal) at UWSP, you have the right to report it using this [link](#). You may also contact the Dean of Students office directly at dos@uwsp.edu.

Confidentiality

Learning requires risk-taking and sharing ideas. Please keep your classmates' ideas and experiences confidential outside the classroom unless permission has been granted to share them.

Grading Scale

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%		

Communicating with your Instructor



Email is the quickest way to reach me at: lsiewert@uwsp.edu



Skype or Zoom videoconference is also available by request.

Communicate Clearly

Remember some faculty receive as many as 100 emails per day. Yours should be clear, concise, and professional so that your issues can be responded to effectively. Include the entire thread of an ongoing email conversation so that your instructor can recall the history of your issue without searching for other emails you have sent. Sign off with your first and last name. I will not open attachments without messages or messages that are illegible.

Drop-in hours

I am available without an appointment on Mondays and Fridays from 1:00-2:00pm in 282A. Individual meetings outside of these times can be arranged through an email request or conversation directly before or after class. I do not hold normal office hours during spring break.

Attendance

Attending class will likely be the single most important factor in determining your performance and grade in the course, so plan to attend every class. The relationship between attendance and achievement in education has been extensively documented in peer-reviewed research. ***I am not able to re-teach the material to you in the event that you are absent, but you can ask a classmate to share notes.***

Please refer to the "Absences due to Military Service" and "Religious Beliefs Accommodation" below. Additionally, below are attendance guidelines as outlined by the [UWSP registrar](#):

Attend all your classes regularly. We do not have a system of permitted "cuts."

If you decide to drop a class, please do so using AccesSPoint or visit the Student Success Center. Changes in class enrollment will impact your tuition and fee balance, financial aid award and veterans educational benefit.

During the first eight days of the regular 16 week term, your instructor will take attendance. If you are not in attendance, you may be dropped from the class. You are responsible for dropping any of your enrolled classes.

- If you must be absent during the term, tell your instructor prior to the class you will miss. If you cannot reach your instructor(s) in an emergency, contact the Dean of Students Office at 715-346-2611 or DOS@uwsp.edu.
- If you are dropped from a class due to non-attendance, you may only be reinstated to the class section using the class add process. Reinstatement to the same section or course is not guaranteed. Your instructors will explain their specific attendance policies to be followed at the beginning of each course.
- If you take part in an off-campus trip by an authorized university group such as an athletic team, musical or dramatic organization, or a class, make appropriate arrangements in advance with the instructor of each class you will miss. If you are absent from classes because of emergencies, off-campus trips, illness, or the like, your instructors will give you a reasonable amount of help in making up the work you have missed.
- If you enroll in a course and cannot begin attending until after classes have already started, you must first get permission from the department offering the course. Otherwise, you may be required to drop the course.
- If you do not make satisfactory arrangements with your instructors regarding excessive absences, you may be dismissed. If you are dismissed from a class, you will receive an F in that course. If you are dismissed from the University, you will receive an F in all enrolled courses.

Late Work

Any missed homework will be counted late after the due date and points will be automatically deducted by 25% for every additional day late. I encourage you to turn in ALL homework even if it is late! Late is better than a zero!

Equal Access for Students with Disabilities

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](#) to complete an Accommodations Request form. Phone: 346-3365 or Room 609 Albertson Hall.

Help Resources

Tutoring	Advising	Safety and General Support	Health
Tutoring and Learning Center helps with Study Skills, Writing, Technology, Math, & Science. 018 Albertson Hall, ext 3568	Academic and Career Advising Center, 320 Albertson Hall, ext 3226	Dean of Students Office, 212 Old Main, ext. 2611	Counseling Center, Delzell Hall, ext. 3553. Health Care, Delzell Hall, ext. 4646

UWSP Service Desk

The Office of Information Technology (IT) provides a Service Desk to assist students with connecting to the Campus Network, virus and spyware removal, file recovery, equipment loan, and computer repair. You can contact the Service Desk via email at techhelp@uwsp.edu or at (715) 346-4357 (HELP) or visit this [link for more information](#).

Care Team

The University of Wisconsin-Stevens Point is committed to the safety and success of all students. The Office of the Dean of Students supports the campus community by reaching out and providing resources in areas where a student may be struggling or experiencing barriers to their success. Faculty and staff are asked to be proactive, supportive, and involved in facilitating the success of our students through early detection, reporting, and intervention. As your instructor, I may contact the Office of the Dean of Students if I sense you are in need of additional support which, individually, I may not be able to provide. You may also share a concern if you or another member of our campus community needs support, is distressed, or exhibits concerning behavior that is interfering with the academic or personal success or the safety of others, by reporting [here](#).

Academic Honesty

Academic Integrity is an expectation of each UW-Stevens Point student. Campus community members are responsible for fostering and upholding an environment in which student learning is fair, just, and honest. Through your studies as a student, it is essential to exhibit the highest level of personal honesty and respect for the intellectual property of others. Academic misconduct is unacceptable. It compromises and disrespects the integrity of our university and those who study here. To maintain academic integrity, a student must only claim work which is the authentic work solely of their own, providing correct citations and credit to others as needed. Cheating, fabrication, plagiarism, unauthorized collaboration, and/or helping others commit these acts are examples of academic misconduct, which can result in disciplinary action. Failure to understand what constitutes academic misconduct does not exempt responsibility from engaging in it.

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.

Students suspected of academic misconduct will be asked to meet with the instructor to discuss the concerns. If academic misconduct is evident, procedures for determining disciplinary sanctions will be followed as outlined in the [University System Administrative Code, Chapter 14](#).

Other Campus Policies

FERPA

The [Family Educational Rights and Privacy Act](#) (FERPA) provides students with a right to protect, review, and correct their student records. Staff of the university with a clear *educational need to know* may also have to access to certain student records. Exceptions to the law include parental notification in cases of alcohol or drug use, and in case of a health or safety concern. FERPA also permits a school to disclose personally identifiable information from a student's education records, without consent, to another school in which the student seeks or intends to enroll.

Title IX

UW-Stevens Point is committed to fostering a safe, productive learning environment. Title IX and institutional policy prohibit discrimination on the basis of sex, which includes harassment, domestic and dating violence, sexual assault, and stalking. In the event that you choose to disclose information about having survived sexual violence, including harassment, rape, sexual assault, dating violence, domestic violence, or stalking, and specify that this violence occurred while a student at UWSP, federal and state laws mandate that I, as your instructor, notify the Title IX Coordinator/Office of the Dean of Students.

Please see the information on the [Dean of Students webpage](#) for information on making confidential reports of misconduct or interpersonal violence, as well as campus and community resources available to students. For more information see the [Title IX page](#).

Clery Act

The US Department of Education requires universities to disclose and publish campus crime statistics, security information, and fire safety information annually. Statistics for the three previous calendar years and policy statements are released on or before October 1st in our [Annual Security Report](#). Another requirement of the Clery Act, is that the campus community must be given timely warnings of ongoing safety threats and immediate/emergency notifications. For more information about when and how these notices will be sent out, please see our [Jeanne Clery Act](#) page.

Drug Free Schools and Communities Act

The Drug Free Schools and Communities Act (DFSCA) requires institutions of higher education to establish policies that address unlawful possession, use, or distribution of alcohol and illicit drugs. The DFSCA also requires the establishment of a drug and alcohol prevention program. The Center for Prevention lists information about alcohol and drugs, their effects, and the legal consequences if found in possession of these substances. [Center for Prevention – DFSCA](#)

Copyright infringement

This is the act of exercising, without permission or legal authority, one or more of the exclusive rights granted to the copyright owner under section 106 of the Copyright Act. Each year students violate these laws and campus policies, putting themselves at risk of federal prosecution. For more information about what to expect if you are caught, or to take preventive measures to keep your computing device clean, visit our [copyright page](#).

Course Schedule

The schedule below is tentative, and topics and dates may change during the semester

Week	Dates	Lecture Topic	Canvas Assignments (due Weds 11:59pm)	Lab (Wednesday only)
1	1/22	Introduction; Minerals		Mineral Properties
	1/24	Minerals		
2	1/27	Earth in the Solar System & Systems in the Earth	Assignment 1 Minerals RQ	Mineral Identification
	1/29	Continental Drift		
	1/31	Plate Tectonics		
3	2/3	Plate Tectonics	Plate Tectonics RQ	Mineral Quiz
	2/5	Intro to rocks; Rock Cycle		
	2/7	Igneous Rocks		
4	2/10	Igneous rocks	Igneous Rocks RQ Volcanism RQ	Igneous Rocks
	2/12	Volcanism		
	2/14	Weathering & Erosion		
5	2/17	Sedimentary Rocks	Weathering RQ Sedimentary Rocks RQ	Sedimentary Rocks
	2/19	Depositional Environments		
	2/21	Exam 1		
6	2/24	Metamorphic Rocks	Metamorphic Rocks RQ	Metamorphic Rocks
	2/26	Metamorphic Environments		
	2/28	Seismology and Earthquake Hazards		
7	3/2	Studying Earth's Interior	Earthquakes RQ	<i>Optional Lab: Rock Quiz Study Day</i>
	3/4	Basics of Structural Geology		
	3/6	Crustal Deformation		
8	3/9	Crustal Deformation	Deformation RQ	Rock Quiz
	3/11	Relative Dating		
	3/13	Absolute Dating		
9	3/16	No Class - Spring Break		
	3/18			
	3/20			
10	3/23	Life History in 50 Minutes	Geologic Time RQ	Geologic Time
	3/25	Synopsis of Historical Geology		
	3/27	Mass Wasting		

11	3/30	Stream processes	Mass Wasting RQ Streams RQ	Topographic Maps
	4/1	Stream Processes		
	4/3	Exam 2		
12	4/6	Coastal Geology	Coastal Geology RQ	Geologic Maps
	4/8	Coastal Geology		
	4/10	Deep Oceans		
13	4/13	Groundwater	Groundwater RQ	Mineral Exploration Game: Describe the Geology
	4/15	Deserts & eolian processes		
	4/17	<i>No class</i>		
14	4/20	Mineral & Energy Resources	Geologic Resources RQ	Mineral Exploration Game: Locate ore deposits
	4/22	Mineral & Energy Resources		
	4/24	Glaciers		
15	4/27	Glaciers	Glaciers RQ	Mineral Exploration Game: Bid on and win ore
	4/29	Climate zones; global circulation		
	5/1	Ice Ages		
16	5/4	Climate Change	Climate Change RQ	Mineral Exploration Game: TBD
	5/6	Exam 3		
	5/8	<i>Optional: Review Session</i>		
17	5/11	8:00am-10:00am Final Exam in 374		