



Physical Geology Syllabus

Welcome to Geology!

It has been slightly more than a year since the huge earthquake in central China. Is it possible that an earthquake of this magnitude (8.0+) could happen in the Pacific Northwest? Almost every day newspapers report on events such as tsunamis, floods, earthquakes, volcanic eruptions, and landslides somewhere in the world. Knowledge of these geological processes, such as the huge earthquake in China, helps us understand and evaluate news reports of the events. Why do earthquakes happen in the Pacific Northwest and is there a way to predict when earthquakes will occur? These are some of the important topics we study in geology.

Not all events related to the Earth make it to the front page of the newspaper, but may be still interesting to us. I hope that as we progress through the quarter you will find topics of interest to you even if they are not of practical value. An example of such a question might be, "What was the Puget Sound region like in the past?"

Later in this syllabus there is a more complete listing of the subjects we will study and skills we will improve this quarter, but this quarter we will focus on three major goals:

1. To develop a different perspective as you view the Earth and improve our curiosity about how the Earth works. Many of us take for granted the world in which we live. I hope you will more closely examine your world as a result of this course.
2. To have a general knowledge of geology so that when statements are made in the press, you will be able to properly evaluate those statements.
3. To develop skills to solve problems and questions. I hope that the skills you learn in this class will carry over into your other classes.

To accomplish these goals there will be a variety of instructional activities: lecture-discussion sessions, group problem-solving, laboratory work, field trips, and individual readings and investigations.

Evaluation/Grades

1. Exams

There will be four unit exams during the quarter. The dates of these exams are shown on the lecture schedule. The questions on these exams will be predominately objective-type, with some short essay-type questions. At the end of the quarter I will average the two best exam grades of the first three exams, so I will drop the lowest exam grade of the first three exams. *You must take Exam 4.*

These unit exams have two parts:

- 1) Part I is taken individually in the first 35-40 minutes of the class. You will submit your answer sheet and
- 2) in the remaining exam time, Part II is taken as an open-book, open-notes, collaborative exam. It is the same exam, but you get to use notes, books and you get to talk to your classmates in part II.

The exam grade is determined primarily by your score on Part I (75% of the exam grade will come from your individual score and 25% from your Part II score.) *Your exam grade will not be lowered if your Part II score is lower than your Part I score.*

There are no make-up exams if you miss one. If you know you will be missing an exam, see me and we may be able to arrange to have you take the exam early, although you will not have the opportunity to complete Part II of the exam.

Study guides will be distributed to aid you in studying for the exams. Completing the study guides is highly recommended, but you will not submit the study guides for a grade.

2. Laboratory

We have two lab modes: in the classroom and field trips. During the field trips and in the lab you will be given problems to solve. These lab assignments will be graded on a point basis. The point value of each lab will be indicated.

Two lab field trips are scheduled. Please assemble in SC 111 for both of the lab field trips. You need to have footwear that does not have slick soles and something to protect you from the rain. Even if it does not rain, your feet may get very wet from the wet grass, so you may want to have a change of shoes for after the trip. You should bring something to write on and write with on the trips.

3. Group discussion problems:

I have found that students get more from this course and have more fun if we use some of the class time to **investigate** the Earth rather than just have me talk and talk and talk about the Earth. So, on some days during class we will break into groups and work on the solution to an open-ended problem. You and your group will discuss the situation and submit one written answer by the end of the class. Only those present for the discussion will receive credit for the problem. You may drop one of these problems without penalty, and there will be no make-ups. (Please see the comments regarding the H1N1 virus in the next section.)

4. Quizzes over Reading Guides

To make the Group Discussion problems work, each person must be prepared when she/he comes to class. I cannot expect you to know the answers to the group questions if you have no background, so it is important that everyone read the assigned readings in the text prior to our lecture/discussion of the topic.

You will receive Reading Guides to help you read the text (title of text given below). These guides will be distributed at the beginning of each unit or are available at the course web site (URL given below). We will have a quiz over the information in the Reading Guides on the dates noted on the Tentative Course Schedule below (for example, **the quiz over the first Reading Guide (Ch. 3 and 4) will be on September 28** - notice the **“Ch 3 and 4” in bold letters** on the lecture schedule). Although I would like for you to read the short parts of Chapter 1, noted in the Reading Guide for this unit, this quiz will cover only chapters 3 and 4. You may use your Reading Guides during the quiz and the quiz will cover just the information in the Reading Guides. Before the quiz you are welcome to ask me questions about parts of the Reading Guide that you do not understand or could not find in the text.

The quizzes will be graded on a basis of points. The quizzes will be about 5-10 points each. See the grading scale for how the grades for these quizzes will be determined. Quizzes will be conducted during the first five minutes of class. If you are late to class you will have less time to complete the quiz. The first quiz over Igneous Processes will be all extra credit. There are no make-ups if you miss a quiz with the following exception. **If you are unlucky enough to have the H1N1 virus this quarter, I will make an exception to this policy. We do not want you to attend class if you have this virus. There will be a special form for you to complete that will let me know the dates you were ill. In this special situation, you will be permitted to drop

the quiz or quizzes and any in-class work you miss during your illness. You will not make up the quizzes, but your quiz grade will be based on a lower number of points possible. This consideration is valid only one time this quarter and may not exceed one week in duration.

GRADING

1. Unit Exams	50%
2. Laboratory	30%
3. Group discussion problems	10%
4. Reading Guide Quizzes	10%

My grading philosophy is that if you score above 90%, your grade will be in the "A" category (3.5-4.0) and if your score is between 80% and 90% your grade will be in the "B" category (2.5-3.5), etc. However, if I give a difficult exam and the average score is low, I may curve the grades so that the average grade is not below a 2.0. The exams will be graded on the decimal scale of 0.1-4.0.

The labs, group discussion questions, and Reading Guide quizzes are graded on the basis of points (the points for labs, group problems, and Reading Guide quizzes do not count the same value) and at the end of the quarter will be converted to the decimal scale noted above. The cut-off for a 3.5 will be 90% of the total points; a 2.5 will be 80% of the total points, etc.

At the end of the quarter the grades from the exams, labs, group discussion problems, and Reading Guide quizzes will be averaged according to the weighting factors shown above to determine the final grade. If you miss more than 8 days of class (2 weeks), you may receive a grade of 0.0. If you have questions about your grade, please let me know.

Resources in the course:

TEXT: Chernicoff and Whitney, Geology: An Introduction to Physical Geology, 4th Edition, Pearson (available in the bookstore)

Course Web Site: I have established a course web site at the address below. Most of the handouts will be listed at this address, so if you need an additional copy of an assignment, you can print it from this site.

<http://www.instruction.greenriver.edu/filson>

Tentative Course Schedule

(this schedule may change - I will announce any changes in class or via GRCC student email)

	Sept 21	Sept 22	Sept 23	Sept 24	Sept 25
1	Introduction and Volcanism	Volcanism (class from 9-10 in SC 101)	Volcanism	Volcanism (class from 9-10 in SC 101)	Volcanism
2	Sept 28 Ch. 3 and 4 Volcanism and Intrusive Rocks	Sept 29 Volcanic Landforms (please bring your text)	Sept 30 Mt. St. Helens Mt. Rainier	Oct 1 Volcanic Landforms (please bring your text)	Oct 2 Ch. 5 Volcanism Weathering
3	Oct 5 Weathering	Oct 6 Rock Identification	Oct 7 Exam 1	Oct 8 Rock Identification	Oct 9 Ch. 14 Landslides

4	Oct 12 Landslides	Oct 13 Landslide Field Trip	Oct 14 Ch. 17 Glaciation	Oct 15 Landslide Field Trip	Oct 16 Glaciation
5	Oct 19 In-service Day No daytime classes	Oct 20 Rock Identification (open to both labs)	Oct 21 Ch. 15 and 16 Groundwater Rivers	Oct 22 Rock Identification (open to both labs)	Oct 23 Rivers
6	Oct 26 Rivers	Oct 27 River Field Trip	Oct 28 Exam 2	Oct 29 River Field Trip	Oct 30 Ch. 19 Shorelines
7	Nov 2 Ch. 6 and 7 Sedimentary and Metamorphic Environments	Nov 3 Advising Day No daytime classes (lab room open to study)	Nov 4 Earth History	Nov 5 Rock Identification (open to both labs)	Nov 6 Ch. 8 Earth History
8	Nov 9 Earth History	Nov 10 Rock Quiz Geological Map Problem	Nov 11 Veterans Day Holiday	Nov 12 Rock Quiz Geological Map Problem	Nov 13 Ch. 9 Deformation
9	Nov 16 Deformation	Nov 17 Geological Map Problem	Nov 18 Exam 3	Nov 19 Geological Map Problem	Nov 20 Ch. 10 Earthquakes
10	Nov 23 Ch. 11 Inner Earth	Nov 24 Geological Map Problem	Nov 25 Plate tectonics	Nov 26 Thanksgiving Holiday	Nov 27 Thanksgiving Holiday
11	Nov 30 Ch. 1, 3, 12, and 13 Plate tectonics	Dec 1 Geological Map Problem	Dec 2 Plate tectonics	Dec 3 Geological Map Quiz (9-10) for both labs in SC 101	Dec 4 Plate tectonics
12	Dec 7 Study Day	Dec 8 Exam 4 (9-11)	Dec 9	Dec 10	Dec 11

Content Specific Learning Outcomes: (Student Achievement during the course)

This course has five primary goals:

1. You will correctly apply information presented during the lectures to the solutions of open-ended questions.
2. You will correctly identify common rocks and the processes that form them along with relative age history principles to discuss the history of a geological map.
3. You will make observations (in class and on field trips) and correctly link those observations to information from the course.
4. You will correctly use a computer to analyze or obtain geological data.
5. You will develop skills to work effectively with peers in finding solutions to geological problems

These outcomes will be demonstrated by: 1) successful achievement on lab quizzes and exams, 2) reports from experiences in the laboratory and on field trips, 3) responses to group discussion questions

Campus-wide Learning Outcomes

Critical Thinking Ability:

You will be asked to examine your geological thinking by:

- 1) explaining your ideas to open-ended questions (in some cases I ask that students defend their choice of more specific answers)
- 2) observing geological features on field trips and applying them to questions posed in the lab
- 3) applying information from lecture to problems presented during class
- 4) using information on geological processes to determine the history of a geological map. Students must apply their knowledge of how various rocks and knowledge of relative age principles to a specific geologic map.

This outcome will be demonstrated by student responses to answers on examination, lab quizzes, lab reports from in-lab exercises and field trips, and group discussion problems during the class period.

Learner Responsibilities:

- I expect you to be present in class each day. If you miss more than six days of class, you will receive a grade of 0.0.
- I expect that you will treat all the students and me in the class with respect (**Turn off cell phones while in class- No Texting or audible pagers unless you check with me before class and it is an emergency**). No laptop computers may be used during class unless you have specific authorization through the Office of Disability Services.
- I expect that you will be prepared for class each day and that you will have read the assigned material for that day

- I expect that you will not talk to other classmates during class, unless I have divided you into groups for the purpose of discussion
- I expect that you will be ready to start class, at the beginning of the class time and will remain in the class until the end of the class period. (We all get caught in traffic or something else happens. Try to not make a habit of being late. Come to class even if you are late; however, stopping for coffee is not a valid reason for being late!)
- I expect that you will check your student email account on a regular basis for information from this course. If you have not used your student email account, go to:
<http://www.greenriver.edu/studentemail/>
- You will be expected to be ready to ask questions or supply answers to questions in class. Putting your head on the desk is not acceptable behavior and I will assume that you would like to answer a question!

Characteristics of an "A" Student:

Sometimes when a student is not doing as well in this course as they would like I hear the question, “What do I have to do to get an A?” There is no easy answer to that question, but I hope the discussion below will help you.

Although excellent students are not all the same, the following are characteristics that I have noted which are almost always present in "A" students:

- they attend class every day. Absence rates among “A” students are usually very low.
- they understand the material rather than relying upon memorization for the test. They are able to apply ideas learned in other parts of the class (and other classes) to the issues they are studying.
- they are prepared for class. They have read the assigned material before the class session and are ready to ask questions and discuss the material. Their work is on time and neat.
- they have the attitude that the primary responsibility for their learning is their own, not the instructor's. These students will do well in spite of the particular instructor in a class.
- they work well in groups. They have good communication skills and are willing to listen to the ideas of others.
- they study actively. They do not just sit and read the text. They use the study guides provided. They outline, take notes, and solve problems as they read. This helps their retention and understanding of the material.

Policy on Late Papers:

LABS: Papers must be submitted to me or my mailbox (on the second floor of SC) the day they are due or they will be marked late. You may submit one lab paper late with no penalty. Do not use class time to complete an assignment. If I see you working on a late assignment during lab, the assignment is due at that time.

Any late lab paper must be submitted to me before I return the graded papers to the other students. I will not accept labs that are submitted after I have returned to the lab papers to the other students. If you have more than one late lab, all labs after the first late lab will be marked down 50% in grade.

Policy on Cheating:

In this course you will be working in groups and by yourself. Individual assignments, such as most of the labs may be discussed in a group, but **must be written individually**. Do not give your paper to someone else! Part I of the exams is closed book, closed notes, and obviously is to be your own work. Part II of the exams is open book and collaborative. You may use your Reading Guides to help you during quizzes, but the quizzes must be taken individually. If individuals are found to be cheating, their names will be given to the Dean of Instruction for further action that may range from no credit in the exam/assignment to removal from the college.

Policy on Visitors in Class:

Faculty members at GRCC have been directed to not permit children of students to attend classes. As a parent, I understand that sometimes it is very difficult to make daycare arrangements. However, the policy from our administration is very clear and I will have to enforce the rules. If a person is over 16 and would like to attend the class, please see me several days ahead of the class sessions to obtain permission.

Special Needs

If you believe you qualify for course adaptations or special accommodations under the Americans With Disabilities Act, it is your responsibility to contact the Disabled Students Services Coordinator in the LSC and provide the appropriate documentation. If you have already documented a disability or other condition that would qualify you for special accommodations, or if you have emergency medical information or special needs I should know about, please notify me during the first week of class. You can reach me by phone at 253-833-9111, extension 4324. Or, you can schedule an office appointment to meet me in SC 113 during my posted office hours or at another mutually determined time. If this location is not convenient for you, we will schedule an alternative place for the meeting. If you use an alternative medium for communicating, let me know well in advance of the meeting (at least one week) so that appropriate accommodations can be arranged.

A FINAL NOTE

I sincerely believe that each of us can be a resource in this course. I hope you will ask questions, initiate discussion, and take an active part in making our lectures more like discussions. In this way, I think we will all learn more!

Bob Filson

Office hours: 7:30-9 MF, 10-12 W, and by appointment

Office: SC 113

253-833-9111 (ext. 4324)

Toll free numbers from Tacoma (253-942-0180) and Seattle (206-464-6133)

My campus email address is bfilson@greenriver.edu

My home phone 253-833-8426 (please do not call after 10 PM--Thanks!)