

Instructor: Charlotte Goddard

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Office Hours: T/R 4:30-5:00 (MH 111 or Foyer) or by appointment

Texts: Essentials of Geology, Marshak (3rd ed.)

website: elearning.linnbenton.edu/

This text is also used in G102 and G103

Lecture Tutorials in Introductory Geoscience, Kortz and Smay (2009)

G101 Lab manual (in house)

Welcome to Geology!

Almost everyday newspapers report on earthquakes, tsunamis, volcanic eruptions, or landslides that occur somewhere in the world. Knowledge of these geological processes, such as the recent tsunami in Indonesia, or the ongoing eruption of Mt. St. Helens, helps one understand and evaluate news reports of these events. Is it possible that a similar tsunami could devastate the Oregon coast? What is the chance of a large magnitude earthquake striking the Pacific Northwest? These are important questions that we study in geology.

This quarter's focus is on the solid Earth. We will learn about the basics of Earth's interior, plate tectonics boundaries, rocks and minerals, and earthquakes and volcanoes.

During the quarter we will focus on three major goals:

1. To develop and improve our curiosity about how the Earth works. This class examines how processes inside Earth relate to the types of materials, mountains, and geologic events we can observe on its surface. The processes that take place on Earth affect us all. My personal goal is to make science interesting and understandable. By the end of this course, I hope you will examine your world a little more in depth.
2. To develop knowledge on the science of geology, so when the media makes statements, you can properly evaluate them.
3. To develop skills to solve problems, evaluate situations, and answer questions. I hope the skills you acquire and refine in this class will carry over to your other classes and your daily life.

This class counts towards the AS and AAOT physical science requirement and is also appropriate for those planning on majoring in Geology or a related field, or are just curious about how the Earth works. **Reading 90 and Math 20 are recommended for success in this course.**

GRADING:

Scale for final grade:

Exams	45%	A	100-90%
Labs	20%	B	89-80%
Mini Presentations	10%	C	79-70%
Reading quizzes	10%	D	69-60%
Activities	10%	F	59%-below
TMYN Modules	5%		

Borderline cases (within 1% of the border) will be decided on the basis of attitude, effort, and improvement

Other possible grades: A **Y grade** will not be assigned to any student who submits any work after the end of the second week of classes. An **incomplete grade (IN)** will only be considered if a student has talked to me in advance, and a signed agreement between the student and myself is completed. I will only consider an IN grade if the student has a good reason for making the request, has only the minority of coursework to complete, and has scored a C or better on work that has been submitted.

Classroom environment: It is my job as an instructor to foster a positive learning environment for everyone. In order to do this **all electronic devices must be put away and cell phones must be silenced before class begins;** they act as a distraction to other students and myself. While in class, I ask that you be considerate of others, have an open mind, and a willingness to learn a great subject.

Exams: There are two mid-term exams and a comprehensive final exam. If you have a conflict with an exam date talk to me before the test. If you do not you will fail the exam. **Once exams are handed back they cannot be made up.**

Labs: There are a total of nine lab activities. **Labs cannot be made up**, but I will drop your lowest lab score. However, if you complete all nine labs, I will count your lowest score as extra credit. Since this is a lab-based class, **you must attend at least 6 labs to pass the class.** One lab is **a field trip to Mary's Peak on Oct. XXth.**

Activities: I have found that students get much more out of class and have a lot more fun if we devote some class time to group activities rather than me standing up and talking, talking, talking. I will average all of your activity scores when calculating your final "activity" portion of your overall grade. *Activities completed in class cannot be made up; activities completed outside of class are due the next class period; late work is deducted 10% per day late.*

Reading quizzes: You should be prepared when you come to class. I cannot expect you to know how to solve a problem if you have no background. Therefore it is important that you read the text before our lecture or activity. *I will provide reading guides to help you focus on important topics from the text.* We will have quizzes over the readings on the dates noted in the class schedule. **You are allowed to use the reading guides on the quizzes.** I welcome questions if you do not understand a topic or cannot find it in the text. Quizzes will be conducted at the beginning of class, so if you are late you will have less time to complete the quiz. **There are no make ups, but I will drop your lowest quiz grade.**

Mini-research projects: You will conduct two mini-research projects with classmates. I will assign your group specific topics. Each group will create a short powerpoint presentation and present it to class on specified days. I will provide more information about this early in the term.

Concerning cheating and plagiarism: I encourage group work on labs and homework assignments; however, your answers must be expressed in your own words, numbers, etc. Exams will generally be closed book, closed note, and taken individually. Any copying or cheating will result in a zero on that assignment and possible recommendation to LBCC administration for further consequences.

Students with special needs: Students who may need accommodations due to documented disabilities, who have medical information which I should know, or who need special arrangements in an emergency, should speak with me during the first week of class. If you have not accessed services and think you may need them, please contact Disability Services, 917-4789.

Tips for this class:

- Attend class everyday and be on time.
- Communicate: please ask questions if you are having difficulty understanding the material.
- Work to understand the material rather than relying on memorization for an exam.
- Prepare for class by completing the reading assignments. Contribute to group work. Be willing to listen and consider other ideas, actively participate in group discussions, and ask questions.

A FINAL NOTE: I believe that we are all resources for this course. To that end, I hope you ask questions and initiate discussions in class. In this way, I think we will all learn a lot more!

TENATIVE SCHEDULE (subject to change):

1 Reading: Prelude: p. 1-7 Ch. 1: p. 20-30 Ch. 2 start	Sep 27 Class introduction; Earth's interior. Intro to plate tectonics: plate boundaries Pretest	Sep 29 Lab 1: Density and topography of Earth Density module/assessment
2 Reading: finish Ch. 2	Oct 04 Dynamics of plate tectonics Quiz 1 (Ch. 2)	Oct 06 Lab 2: Plate motions and hot spots Rates module/assessment
3 Reading: Ch. 3, Appendix A1-A7	Oct 11 Building blocks of minerals: atoms and elements. Minerals Quiz 2 (Ch. 3)	Oct 13 Lab 3: Physical properties of minerals Unit Conversion module/assessment
4 Reading: Interlude A, C, Ch. 4	Oct 18 EXAM 1 (Ch. 1, 2, 3) Rocks and the Rock Cycle	Oct 20 Igneous Rocks and volcanoes Quiz 3 (Ch. 4, 5)
5 Reading: Ch.5	Oct 25 No class: focus on research for presn. {{Field Trip Saturday October XX th }}	Oct 27 Lab 4: Igneous rocks and magmas MINI Presentation I
6 Reading: Ch. 6	Nov 01 Sedimentary rocks Quiz 4 (Ch. 6)	Nov 03 Lab 5: Sedimentary rocks MINI Presentation I
7 Reading: Ch. 7	Nov 08 Metamorphism & Meta. rocks Lab 6: Metamorphic rocks Quiz 5 (Ch. 7)	Nov 10 EXAM 2 (Ch. 4, 5, 6, 7)
8 Reading: Ch. 8: p. 200-215	Nov 15 Introduction to seismology and earthquakes Quiz 6 (Ch. 8)	Nov 17 Lab 7: Epicenter location Plotting Points & Reading Points Curve module/assessment
9 Reading: Ch. 8: p. 215-230	Nov 22 Measuring EQs: magnitude & intensity. Earthquake hazards, EQ in Cascadia	Nov 24 NO CLASS LBCC closed
10 Reading: "Earthquakes in Pacific NW"	Nov 29 Lab 8: Earthquake recurrence in Cascadia Best Fit module/assessment	Dec 01 Final Review and Poster Session MINI Presentation II
11 Finals Week	Dec 06 FINAL EXAM 5:00-7:20 pm (normal class time).	Post Test: when to do?