Winter 2018
GS 106: Physical Science –Principles of Earth Science

Welcome to Earth Science!

Earth's processes and issues are in the news today; with volcanic eruptions, earthquakes and tsunamis, dwindling resources, climate change and the drive for cleaner energy production, Earth Science is more relevant than ever.

Instructor: Sheila Alfsen email:alfsens@linnbenton.edu
Date Range: Start 1/8/18 End: 3/23/18
Place: Online
Credit: 4 hours **Prerequisites:** None **CRN 31430**
Contact Information: Contact me any time by email with questions or concerns.

Course Description: An overview of our fascinating planet designed for non-science majors who are interested in the natural world. We will study the rocks that make up Earth's crust, Earth's history, the interior of the Earth, landscapes, the oceans and atmosphere, weather, climate and energy resources. This class satisfies the physical science requirement for the AAOT and AS degrees.

Course Outcomes:

1. Describe key events in the history of science, with particular emphasis on Earth Science, and their impact on society
2. Describe and apply the process of scientific inquiry
3. Solve scientific problems with quantitative methods
4. Identify the various Earth systems and define their physical, chemical, and/or geological make up
5. Describe how matter and energy cycle through Earth systems

Online courses: Online courses are not for everyone. *This course is best suited for students that are highly self motivated.* It requires a high degree of self-discipline on a **weekly** basis. I expect you to know the basics of how to work a computer, word-processing/spreadsheet programs, and navigate the internet.

System Requirements: Computer with access to high-speed internet. *It is your responsibility to ensure that you have the correct computer requirements to participate in this course.*

Text and additional materials: *Earth*, Hendrix/Thompson ISBN-13: 978-1-285-44226-6.
You must also purchase:

1) Topographic map ***Howard Butte*** for use in Lab 5.
2) GS106 Mineral Kit
3) GS106 Rock Study Kit

There is **NO** lab manual to be purchased for this course.
All materials required can be purchased from the campus bookstore in Albany.

eLearning- This class uses Moodle. You will find all of your course-materials listed by the week and will submit all assignments online. Log into your Moodle account by going to http://elearning.linnbenton.edu/

It is important that you update your Moodle profile with the email address you will check so I can be in contact with you!

Course set up: There are ten units you will work through, one for each week. Each unit has specific assignments (listed below) that **must be completed by due dates**.

Components of course:

- Readings from textbook
- Videos and video worksheets (due on Saturday nights)
- Labs and activities (done at home) (due on Saturday nights)
- Forum discussions (first post due Thursday, response to classmate Saturday nights)
- Exams (open only for a 4 day window of time, see schedule for weeks)

Reading from textbook: All readings are from the text book and are listed in each unit.

Videos: These are 30 minute videos that you will stream from the Earth Revealed website (http://www.learner.org/resources/series78.html). Scroll down the page to see the individual program descriptions and select the film/films that are required each week. Video worksheets will be in each unit for you to use as a guide while viewing the video.
Submission instructions for video worksheets: You will submit the video worksheets via Moodle (they are part of your grade). Video worksheets will be submitted by copy/pasting your completed worksheet into the submission box. You will not be allowed to attach a file. I ask that your answers be in either red or **bold** font for clarity when I grade them.
Labs and Activities: There is **no lab manual** to purchase for this course. Labs and activities will be posted in each unit. They are done at home with your purchased materials and simple household items. A list of the simple materials that you need to provide is posted on the Moodle site below this syllabus to allow you time to obtain them.
Submission instructions for labs: For the labs, I will give you an option to submit them by attaching a file, in case submission by copy/pasting does not work. (sometimes images will not come through the submission box). I ask that your answers be in either **red** or **bold** font for clarity when I grade them.

Instructions for finding/saving video worksheets and labs in your Moodle course:
This course utilizes Google Docs to deliver course material to you. You will not be able to fill in your worksheets and labs unless you ***save*** the document(s) to your computer. Here's how:

- **Step 1**: Log into your **LBCC RoadRunner email account**.
- **Step 2**: **Click here to view the worksheet/lab for this assignment**. This will open in a new browser tab in Google Docs.
- **Step 3**: File menu > Select "Make a copy"
- This will save a copy of the Google Doc that you can edit. Submit worksheets by copying and pasting them into the submission box. Submit labs by attaching the file.
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Note: If you have trouble with Google Docs, the assignments are posted as Word documents in a folder at the end of each week. These are only to be used as a backup.

Forum discussions: To overcome the impersonal aspects of an online class, each week a forum discussion will be posted for you to contemplate and make a comment or question about. This is your chance to interact with your instructor and classmates. Each week you will be expected to:

- Post **one comment** addressing the question to the best of your ability. It may be an observation you have while studying the topic or an opinion you have. There is no one correct answer!
- Post **one response** to what another student has posted.

In order to receive full credit, post your initial response ***no later than Thursday*** of each week. This will give others ample time to read what you have posted and respond. *I expect you to participate in it each week as it is part of your grade.* Your participation during discussions and questions are important!
Forum Follow-ups:Towards the end of each week, I will post a follow-up to the weekly discussion to make sure you got the main points. You don't need to reply to it, but be sure to read them each week. They will help you prepare for the final exam.

Exams/Quizzes: There are three exams**:** two mid-terms and one comprehensive final. Exams will be taken online with a time limit. Make sure you are thoroughly prepared (re-read chapter, completed all homework, viewed films, etc.) before you log on for the exam. Make use of the prep cards in the back of the book to study. You need to be very familiar with the content before going into an exam, because once you are in, you will not have unlimited time to search for answers.
Note: Unlike assignments which you will have a week to complete, **exams are only open for 4 days**. ***Watch for due dates on exams carefully!***

Classwork expectations:
Please complete all of the required work and submit it on time via the Moodle classroom. Make sure your work is your own, in your own words, ***even*** if you studied and worked with someone else. Identical assignments will **not** be accepted and suspicion of cheating will be reported to the dean. Likewise, copy/pasting information from the internet on any of your written work will be considered plagiarism, and will result in serious consequences.

100 – 90%A
89 – 80% B
79 – 70% C
69 – 60% D
59 or below F

Grading: Exams (10, 60, 60, 100) 230 points

Forum Discussions (5ea)	50 points
Labs (10ea)	90 points
Video Worksheets (5ea)	100 points
Activities (5ea)	30 points
Total----------	500 points

Other Possible Grades: A Y grade will not be assigned to any student who submits any work after the first week of classes. An incomplete grade (I) will only be considered if: the student has talked to me in advance, signed an agreement, has a valid reason for requesting it, ***and*** completed the majority of the work (80% or more) with a C or better grade.

Course Outcome: It is my hope that by the end of the term you will have an increased awareness and understanding of the basic geologic and meteorological processes that operate on the Earth in order to be informed citizens, to evaluate media statements and make informed decisions. In addition, I hope you will gain an appreciation of the workings of science and understand the natural forces and issues that affect Oregonians.

Diversity: The LBCC community is enriched by diversity. Each individual has worth and makes contributions to create that diversity at the college. Everyone has the right to think, learn, and work together in an environment of respect, tolerance, and goodwill. LBCC prohibits unlawful discrimination based on race, color, religion, ethnicity, use of native language, national origin,

sex, sexual orientation, marital status, disability, veteran status, age, or any other status protected under applicable federal, state, or local laws.

Disability Accommodations:
LBCC is committed to inclusiveness and equal access to higher education. If you have approved accommodations through the Center for Accessibility Resources (CFAR) and would like to use your accommodations in this class, please talk to your instructor as soon as possible to discuss your needs. If you think you are eligible for accommodations, but are not yet registered with CFAR, please go to http://linnbenton.edu/cfar for steps on how to apply for services. Online course accommodations may be different than in on-campus classrooms: it is important that you make contact with CFAR as soon as possible.

Textbook Study Tips:

- It is **important** that you read the pages assigned to you **before** attempting to do your homework. Your textbook is considered your basic starting point for course content.
- Vocabulary is critical to learning and communication in science. Key terms are in bold throughout your text. Glossary definitions for them are located in gray boxes on the sides of the pages in each chapter as they are introduced.
- Prep cards are located at the end of the book. There are prep cards for each chapter. Quiz yourself on the key terms and try your hand at the Discussion questions.
- ASK QUESTIONS! Jot down things you don't understand to ask me or your classmates in discussions. It's the best way to learn and I am always happy to help you.

Help with eLearning:

Tech Support: If you need technical support, contact the Student Help Desk, located in the Albany Main Campus Library.
Student Help Desk:
541-917-4630 (voice)
541-704-7001 (text)
student.helpdesk@linnbenton.edu

Live support in the Albany main campus library:
Hours of operation: 8:00am - 7:00pm (M-Th) & 8:00am - 5:00pm (F).

Class Schedule

Week	Topic	Reading	Video and worksheets	Activities	Lab	Discussion topic
1	Introduction and minerals	Chapters 1 and 2 Chapter 5 pp. 75-82	**Earth Revealed:** Down to Earth; Minerals	Crystallization first week (start)	Mineral lab	Personal introductions Minerals ,Ores and You

2	Intrusive and volcanic rocks	Chapters 3 and 8	**Earth Revealed:** Intrusive Igneous Rocks; Volcanism	Crystallization second week (finish and submit)	Rock lab	Rock Cycle
3	Geologic Time	Chapter 4	**Earth Revealed:** Geologic Time; Evolution Through Time	Geologic timeline	Radio-activity	Rock Record
4	Plate Tectonics	Chapters 6 and 9	**Earth Revealed:** Birth of a Theory; Plate Dynamics		Plate tectonics lab	An Idea Before Its Time
5	Earthquakes **Exam 1**	Chapter 7	**Earth Revealed:** Earthquakes Living with Earth- Part 1 (Loma Prieta Earthquake)	Epicenter location		Quake fatalities
6	Surface processes	Chapters 10, 11 and 12	**Earth Revealed:** Groundwater; Running Water		Porosity and Permeability	Unique Properties of Water
7	Surface processes **Exam 2**	Chapters 13 and 14	Glaciers; Wind, Dust and Deserts		Topographic Maps	Erosion vs uplift
8	Oceans and ocean basins	Chapters 15 and 16	**Earth Revealed:** The Seafloor; Waves, Beaches and Coasts		Oceans	How oceans affect you
9	Atmosphere and weather	Chapters 17, 18, and 19	**Planet Earth:** The Blue Planet; **Habitable Planet:** Earth's changing climate	Water cycle and cloud formation	Weather	Climate change vs Greenhouse Effect
10	Climate change and	Chapters 20 and 21	**Earth Revealed:** Preserving the Legacy	Comparing energy resources	Climate change	Climate change versus energy

	energy resources	Chapter 5 pp. 84-99	**Habitable Planet:** Energy challenges			resources. Why is it important to change?
11	**Final Exam**					