**G201 Physical Geology I Fall 2016, Linn-Benton CC**

**Instructor: DERON CARTER**

**Office: MH 110**

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**Office hours: M 11:20-12:00, 2:30-4:00, W 2:30-3:00, TR by appointment**

**Class Moodle page: elearning.linnbenton.edu**

**CLASS DESCRIPTION**

Introduces physical geology and fundamental geologic principles. Topics include Earth’s interior, tectonic processes, and their influence on mountains, volcanoes, earthquakes, rocks and minerals. Laboratory component highlights rocks, minerals, and geophysical data. Suitable for science majors and non-majors. Geology courses do not need to be taken in sequence. *Prerequisite: Math 065. Counts as Physical Science Perspective for AS/OSU degrees and Science with a Lab for AAOT degree.*

**LEARNING OUTCOMES:**

1. Describe the process of scientific inquiry in the context of plate tectonic theory.

2. Solve quantitative problems resulting from plate tectonic processes

3. Classify and identify important Earth materials

4. Use plate tectonic theory to explain geologic processes that occur on and below the surface of Earth

**REQUIRED MATERIALS:**

**Textbook:** GEOL, by Wicander and Monroe (2th edition, older editions OK!)

**Lab Manual:** Geology 201 Lab Exercises, LBCC

**Calculator:** Scientific calculator (non-graphing/non-programmable) for exams

Recommended: Hand lens (Hasting’s triplet)

**GRADING (400 pts possible)**

Exams 200 pts 400-360 pts= A

Labs 80 pts 359-320 pts= B

Quizzes 100 pts 319-280 pts= C

In-class questions 20 pts 279-240 pts= D, Below 240 pts=F

**Exams:** Exam 1 (60 pts) covers weeks 1-3. Exam 2 (60 pts) covers weeks 4-6. The final exam (80 pts) covers weeks 7-10 and is comprehensive. Exams include multiple choice and short answer questions. Once exams are returned to the class they cannot be made up.

**Labs.** Lab reports (10 pts each) are due Mondays at the beginning of class and should follow lab report instructions. One lab (week 9) is a take-home lab. I will drop your lowest lab but if you complete all labs I will count your lowest as extra credit.

**Online Quizzes (80 points): I expect you to be prepared before coming to class everyday. You will need to: 1) read, 2) watch a short video linked on Moodle, 3) take a short online quiz.** This way you will have some background of material before we cover it in class so we can use class time efficiently and effectively. Quizzes are due 8 am before class that day.

**Rock quiz:** There will be a rock identification quiz on week 9 (20 points).

**In-class Assignments:** We will spend much of class time solving problems and answering questions, rather than listening to me talking, talking. You can receive up to 20 pts (5%) of your overall grade by attending class and answering questions.

**POLICIES**

* **Make-ups.** No make ups are allowed unless your absence can be verified (i.e. doctor’s note, court documents, etc.)
* **Incomplete Grade:** 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. IN grade are assigned only 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.
* **Academic Integrity:** This class is highly collaborative; however, there are expectations for individual work. If it is ever unclear to you, please ask. Any cheating, plagiarism, etc., may result in a zero and possible recommendation to the administration for further consequences. Please see [LBCC AR730-1](http://po.linnbenton.edu/BPsandARs/AR%207030-01%20Cheating.pdf).
* **Special accommodations:** 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 Center for Accessibility, 917-4789. LBCC is an equal opportunity educator and employer.

**RESOURCES**

* **Add/Drop Dates.** If you drop a class before Monday of the Week 2 you will receive a full tuition refund. If you drop after Monday of Week 2 you will be assigned a “W” on your transcript. No withdrawls are allowed after Week 7.
* **Science Help Desk:** Is located in the atrium on the first floor of Madrone Hall and is manned 20 hours per week.
* **Learning Center:** The Learning Center provides academic support and a comfortable place to study. It is located on the second floor above the Library. For more information see: <https://www.linnbenton.edu/learning-center>
* **Geology Tutor:** A geology tutor is available at the Learning Center. Contact the Learning Center to schedule.

***Tentative Schedule, Subject to Change***

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| Week and Reading | M | W | F |
| 1  p. 3-16 and 22-37 | Introductions | **Online quiz**  The Scientific Process | Prelab due  Lab: Intro to Geology |
| 2  p. 37-51 | **Online quiz**  Plate tectonics and boundary types | **Online quiz**  Boundary types and hot spots | Lab: Plate tectonics |
| 3  Chapter 3 | **Online quiz**  Earth’s elements and silicate minerals | Mineral resources | Lab: Minerals |
| 4  Chapter 4 | **EXAM 1** | **Online quiz**  Igneous rocks  Magma formation | Lab: Igneous rocks |
| 5  Chapter 5 | **Online quiz**  Plutons; volcano shapes | **Online quiz**  Magma and viscosity; hazards | Lab: Assessing Volcanic hazards |
| 6  Chapter 6 | **Online quiz**  Sedimentary rocks and weathering | Sedimentary rocks | Lab: Sedimentary rocks |
| 7  Chapter 7 | **EXAM 2** | **Online quiz**  Metamorphic rocks | **NO CLASS**  **Veteran’s Day**  *Last day to drop (W)* |
| 8  Chapter 9 | Lab: Metamorphic rocks | **Online quiz**  Fault types | Lab: Structural geology |
| 9  p. 155-167 | **Rock quiz**  Folds and Mountains | Earthquakes | **NO CLASS**  **Thanksgiving Holiday** |
| 10  p. 167-179 | **Take-home lab due**  **Online quiz**  Earthquake hazards | More on Earth’s interior | Lab: Earthquakes |
| 11 |  | **Final Exam** 8-9:50 am for 10 AM section  1-2:50 pm for 1 PM section |  |