Spring 2019

GS 106: Principles of Earth Science Syllabus

4 Credits

M 10:00 AM – 11:50 AM, MH 114

WF 10:00 AM – 11:20 AM, MH 114

CRN 41474

Instructor name: Ben Stanley

Phone number: (prefer email)

E-mail address: [stanleb@linnbenton.edu](mailto:stanleb@linnbenton.edu) (best way to contact me)

Office hours: F 11:30 AM – 12:30 PM or by appointment

Office number: Madrone Hall, MH-111

## Course Description

## Introduces non-science majors to the Earth Sciences. We will be exploring a vast array of topics, issues, and processes that describe how our planet formed and continues to evolve. This course includes a laboratory component to provide a better understanding of the topic we cover in lecture. No previous science background required, just a willingness to learn!

## Course Materials

Required:

* Textbook: Foundations of Earth Science by Lutgens and Tarbuck, 8th ed., ISBN 978-0-134-18481-4, Pearson Publishing (older versions OK, just contact me)
* GS106 Lab Manual 18/19 by Carter/LBCC
* Access to Moodle (Homework will be posted there)

## Student Learning Outcomes

1. Identify and classify igneous, sedimentary, and metamorphic rocks.
2. Describe the formation of landforms in the context of plate tectonic theory.
3. Describe the components and processes of the hydrologic system.
4. Describe the components and processes of the atmospheric system, including weather and climate.
5. Describe objects that make up the solar system and universe and explain the effects of the relative positions of the earth, sun, and moon.

## Behavior and Expectations

You are held accountable to the [Student Code of Conduct](https://www.linnbenton.edu/current-students/administration-information/policies/students-rights-responsibilities-and-conduct), which outlines expectations pertaining to academic honesty (including cheating and plagiarism), classroom conduct, and general conduct.

**Attendance**

Coming to class is essential, please prearrange any absences you may have with me. Missing class will affect your participation grade and overall grade. You are allowed to miss two unexcused classes, after that your overall grade will be reduced by 10% for each unexcused class missed. **If you miss more than 3 labs, you will fail the course.**

### Use of cell phones and laptops

Please put phones on silence and put away during class. If you need to use your phone, please step out of the classroom. You are allowed to take notes on laptop or tablet, but if I catch you using it for non-classroom activities you will lose that privilege.

**Concerning cheating and plagiarism**

I encourage group work on labs and activities, however, your answers must be expressed in your own words, numbers, etc. Exams and quizzes 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.

**Exams and Assignments**

There will be 3 major exams, with occasional quizzes and worksheets that will be completed in class. Study guides will be provided for all exams. Quizzes and worksheets will cover recent readings and lectures.

**Due Dates**

**Labs**

Each week there will be a lab. Make sure to bring your lab manual to class. Labs are due the next Wednesday, although you will most likely finish in class. Late lab reports are subject to a 10% per class day past due grade reduction. After 5 class days, a maximum of 50% deduction will be taken, this means labs can be turned in at any point during the term with a maximum of 50% grade reduction. Labs cannot be made up, but your lowest score will be dropped. **If you miss more than 3 labs you will fail the course.**

**Homework**

There will be 10 Moodle assignments. You will complete these assignments on Moodle. These are always due on Sunday at 11:59 pm. Late work cannot be accepted, but your lowest HW score will be dropped. If you believe Moodle miscalculated your homework grade, please contact me and I will review your assignment.

**Exams**

If you know you will be absent on a test day, please contact me at least a week in advance to schedule a make-up in the Student Assessment Center in RCH-111. Once tests are returned to the class they cannot be made up. The final exam can only be taken during finals week.

**Grading**

Grades will be posted on Moodle. Coursework will be graded as follows:

Exam 1 & 2 (50 pts each) 100 pts 25%

Labs (lowest dropped, 10 pts each) 70 pts 17.5%

Homework (lowest HW dropped, 10 pts each) 90 pts 22.5%

Final Exam (100 pts) 100 pts 25%

In-class participation/activities 40 pts 10%

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Total 400 pts 100%

**Final Grade Calculation:**

* A = 400-360 points (100-90%)
* B = 359-320 points (89-80%)
* C = 319-280 points (79-70%)
* D = 279-240 points (69-60%)
* F = below 240 points (below 60%)

**Exams 1 & 2**

Exam 1 covers weeks 1-3. Exam 2 covers weeks 4-6.

**Final Exam**

This exam is comprehensive and covers the entire 10 week course. Early finals can only be taken during finals week.

**Participation Grades**

To earn participation points, make sure to attend class, complete in-class activities, and participate in classroom discussions.

**Incomplete grade**s

(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.

# Changes to the Syllabus

I may have to change the contents of this syllabus due to unforeseen circumstances. You will be given notice of relevant changes in class, through a Moodle Announcement or through LBCC e-mail.

# College Policies

## LBCC Email and Course Communications

You are responsible for all communications sent via Moodle and to your LBCC email account. You are required to use your LBCC provided email account for all email communications at the College. You may access your LBCC student email account through Student Email and your Moodle account through Moodle.

## Disability and Access Statement

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 believe you may need accommodation but are not yet registered with CFAR, please visit the CFAR website at www.linnbenton.edu/cfar for steps on how to apply for services or call 541-917-4789.

## Statement of Inclusion

To promote academic excellence and learning environments that encourage multiple perspectives and the free exchange of ideas, all courses at LBCC will provide students the opportunity to interact with values, opinions, and/or beliefs different than their own in safe, positive and nurturing learning environments. LBCC is committed to producing culturally literate individuals capable of interacting, collaborating and problem-solving in an ever-changing community and diverse workforce.

## Title IX Reporting Policy

If you or another student are the victim of any form of sexual misconduct (including dating/domestic violence, stalking, sexual harassment), or any form of gender discrimination, LBCC can assist you. You can [report](https://linnbenton-advocate.symplicity.com/public_report/index.php/pid073717?) a violation of our sexual misconduct policy directly to our Title IX Coordinator. You may also report the issue to a faculty member, who is required to notify the Coordinator, or you may make an appointment to speak confidentially to our Advising and Career Center by calling 541-917-4780.

## Campus Police/Emergency Resources

You may review emergency services and resources at the LBCC [Public Safety website](https://www.linnbenton.edu/future-students/stuff-parents-want-to-know/public-safety). Campus Safety can be reached using the 'Code 2' button on any campus phone or by dialing x411 on campus or (541) 917-4440 off campus. Dial 911 for off campus emergencies.

# Campus Resources

## Learning Center

The Learning Center provides academic support and a comfortable place to study. It is located on the second floor above the Library.It also provides free tutoring services for all classes.

## Science Help Desk Is located in the atrium on the first floor of Madrone Hall and is manned 20 hours per week.

**A FINAL NOTE:** I want all my students to succeed in this course. Do not hesitate to ask me or your peers questions, this class is a safe environment that encourages all learning. I hope you all enjoy this course!

# Class Schedule

**\* Remember: Moodle HW due Sundays at 11:59 PM.**

**\* Labs are due the following Wednesday**

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| **Date** | **Class Topic** | **Readings/Assignments Due** |
| **Week 1** | HW 1 due Sunday April 7 on Moodle | |
| April 1 | **No class** |  |
| April 3 | Class Introduction: Earth's Origin, Interior, Plate Tectonics | Reading: Chapter I.2 (Introduction); Chapter 5 |
| April 5 | Earth Materials: Rocks and Minerals | Reading: Chapter 1.1, Chapter 2 |
| **Week 2** | HW 2 due Sunday April 14 on Moodle | |
| April 8 | **Lab 1:** Rock Cycle |  |
| April 10 | Earthquakes and Hazards | Reading: Chapter 6.1-6.5 |
| April 12 | "The Big One" | Reading: Chapter 6.1-6.5 |
| **Week 3** | HW 3 due Sunday April 21 on Moodle | |
| April 15 | **Lab 2:** Seismic-Eruption |  |
| April 17 | Volcanoes | Reading: Chapter 7 |
| April 19 | Volcanic Hazards | Reading: Chapter 7 |
| **Week 4** | HW 4 due Sunday April 28 on Moodle | |
| April 22 | **Lab 3:** Measuring Explosivity of Eruptions |  |
| April 24 | **EXAM 1** |  |
| April 26 | The Hydrologic Cycle: Rivers | Reading: Chapter 3.3-3.10 |
| **Week 5** | HW 5 due Sunday May 5 on Moodle | |
| April 29 | **Lab 4:** Stream Table Experiments |  |
| May 1 | Groundwater and Caves | Reading: Chapter 3.11-3.14 |
| May 3 | Oceanography: The Seafloor | Reading: Chapter 9.1, 9.5-9.6 |
| **Week 6** | HW 6 due Sunday May 12 on Moodle | |
| May 6 | **Lab 5:** Groundwater Consulting |  |
| May 8 | Oceanography: Currents and Tides | Reading: Chapter 10.1-10.2, 10.8 |
| May 10 | Glaciers and the Last Ice Age | Reading: Chapter 4.1-4.6 |
| **Week 7** | HW 7 due Sunday May 19 on Moodle | |
| May 13 | **Lab 6:** Oceanography |  |
| May 15 | **EXAM 2** |  |
| May 17 | Climate and Weather | Reading: Chapter 11.1-11.4, 11.6-11.7 |
| **Week 8** | HW 8 due Sunday May 26 on Moodle | |
| May 20 | **Lab 7:** Climate Change |  |
| May 22 | Weather: Precipitation and Severe Weather | Reading: Chapter 12.1-12.6; Chapter 14.4-14.6 |
| May 24 | Weather: Winds and Circulation of the Atmosphere | Reading: Chapter 13.1-13.5 |
| **Week 9** | HW 9 due Sunday June 2 on Moodle | |
| May 27 | **No class (Memorial Day)** |  |
| May 29 | Solar System Formation | Reading: Chapter 15 |
| May 31 | Our Solar System | Reading: Chapter 15 |
| **Week 10** | HW 10 due Sunday June 9 on Moodle | |
| June 3 | **Lab 9:** The Solar System |  |
| June 5 | The Big Bang Theory | Reading: Chapter 16 |
| June 7 | Our Universe | Reading: Chapter 16 |
| **Week 11** |  |  |
| June 12 | **FINAL EXAM (Wednesday, 8 AM - 9:50 AM)** | |