

Historical Geology (G203)

Spring 2022 Syllabus

Welcome to Historical Geology!

In this course we will learn about the history of our planet, from how the continents have shifted over time, ice ages, and mass extinctions, to help us understand the grand environmental challenges our society faces today. The class is designed to maximize your interaction with the material, engage and incorporate your own life experiences, and inspire your respect for the stewardship of the planet. No previous geology or science background is necessary for success!

Instructor & Course Information

- **Course Name:** Historical Geology
- **Course Number:** G203
- **CRN:** 41674
- **Instructor:** Dr. Ben Stanley (he/him/his)
- **Campus/Location:** Online
- **Course Access:** Moodle. *All LBCC students have a Moodle account. Access with Single Sign-On ID and password.*
- **Class Time/Dates:** Labs are done individually, lectures for the week will be posted at the beginning of each week; no scheduled class meetings
- **Zoom Office Hours:** F 1-2 pm, or by appointment. At the following link <https://linnbenton.zoom.us/j/98841667720>. Password: G203
- **E-mail:** stanleb@linnbenton.edu

Course Description:

Introduces Earth history through the rock and fossil record. Topics include fossils, stratigraphy, geologic time, and biological and geological events in Earth's history. Laboratory component highlights rocks, fossils, and geologic maps. Suitable for geology majors and non-majors. Geology courses do not need to be taken in sequence.

Learning Outcomes

After successful completion of the course you will be able to:

1. Solve quantitative problems relating to geologic time.
2. Apply geochronological methods to determine a sequence of geologic events.
3. Use geologic cross sections and maps to describe geologic structures.

4. Summarize biological and geological changes to Earth over time.

Required Text

Physical Geology (2nd edition), by Steven Earle, BC Open Textbook. The textbook is a free, open-educational resource, <https://opentextbc.ca/physicalgeology2ed/>.

Introduction to Geology, by Chris Johnson et al. This is a free, open-educational resource, <https://opengeology.org/textbook/>

Optional reading: (no readings will be assigned, but good if you want to go more in depth), Historical Geology, by Callan Bentley et al. This is a free, open-educational resource, <https://opengeology.org/historicalgeology/>

Expectations

- Log into Moodle regularly.
- Work on weekly labs individually and ask instructor questions ahead of the deadline if you are confused.
- Complete all assigned weekly readings, and view assigned videos.
- Complete all weekly assignments after carefully reading assignment instructions.
- Regularly check your LBCC student email.
- Contact the [Student Help Desk](#) when technical issues arise.
- Ask me questions when you have them. I'm always happy to help.
- Communicate when something isn't working for you.
- Support your fellow students.

Course Schedule

This section of G203 is a fully online course. You are not expected to participate in any live class sessions, but you will work on your own time to complete readings, and assignments by the weekly deadlines. You access and submit all assignments in Moodle.

Although the weeks begin on Monday and end on Sunday, I will grant you access to the material on the previous Friday to accommodate those of you that would like to get a head start. The within week deadlines are designed so that you aren't working on everything at the last minute. Most weeks will follow the pattern below:

1. Every Friday at midnight (12:01 am), the upcoming week's material will be made available. This will include announcements, readings, videos, and assignments.

2. **Work due before Thursday at 10 am:**
 - a. **Pre-lab Assignments:** These assignments will guide you through assigned readings, lectures, and videos to help prepare you for the lab.
 - b. **Road Check:** This is a short weekly survey that allows you to reflect on what you have learned, ask questions, and provide feedback about the course. Please submit your road check after completing all your work.
3. **Lab becomes available Thursday at 10 am**
4. **Work due on Sunday at 11:59 pm:**
 - a. **Lab:** The lab assignment is due Sunday. You are welcome to submit it before then.
 - b. **Quiz:** These are short summative quizzes that cover material from pre-class materials, in-class materials, and the labs. They consist of 10 multiple choice questions, and you will have one attempt and a 20-minute time limit.
 - c. **Post-lab assignments:** These are short summative assignments, sometimes in the form of application questions that ask you to submit a short answer to a question in which you must apply what you have learned to a new situation. These are graded using a simple rubric, and you are allowed to *resubmit your answer for a higher score*.

Evaluation

Grading

You will receive a letter grade (A-F) in this course. There is no Pass/No Pass option. Your grade will be calculated based on the following criteria:

1. Pre-lab assignments = 10 at 10 points = 100 points (~20%)
2. Labs = 10 at 10 points each = 100 points (~20%)
3. Quizzes = 9 at 10 points each = 90 points (~19%)
4. Post-lab assignments = 9 at 10 points each = 90 points (~19%)
5. Road Checks = 10 at 5 points = 50 points (~10%)
6. Final Exam = 50 points (~10%)

Total = 480 points

Grading Scale

A	100-90%
B	89-80%

C	79-70%
D	69-60%
F	below 60%

Grades 0.5% or higher will be rounded up. For example, a 89.5% will be rounded up to 90%.

Incomplete Grades

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 grades 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.

Late Work

On-time assignments are an essential element of college success. Please talk to me if you are having difficulty meeting course deadlines and we can work on a solution so that you don't get behind. I may allow a late assignment if you communicate your need for an extension in advance of the deadline.

Remote Instructional Methods

For our class, you will access all course materials in your student Moodle account.

Learning Material & Assignments

Readings, links, and assignments will be organized by week in Moodle. You can access them at any time during the week as long as you have completed the work by the deadlines.

Technology Requirements:

You will need access to a computer and reliable internet. We recognize that technology may represent a barrier to some students during this period. LBCC offers several resources to students which may help you address these barriers. See LBCC's COVID-19 frequently asked questions for students. If you know your circumstances will make it difficult, please contact me as soon as possible so we can work together to find a solution.

College Policies

Disability services and personal emergency arrangements:

Students who may need accommodations due to documented disabilities, who have medical information which the instructor should know, or who need special arrangements in an emergency should speak with their instructor during the first week of class. If you believe you may need accommodations but are not yet registered with the Center for Accessibility Resources (CFAR), please visit the CFAR Website for steps on how to apply for services or call 541-917-4789.

Basic Needs

Any student who has difficulty affording groceries or accessing sufficient food to eat every day, or who lacks a safe and stable place to live, and believes this may affect their performance in the course, is urged to contact the Roadrunner Resource Center for support (resources@linnbenton.edu , or visit us on the web www.linnbenton.edu/RRC under Student Support for Current Students). This office can help students get connected to resources to help. Furthermore, please notify your instructor if you are comfortable in doing so; this will help them connect you with other resources.

LBCC Comprehensive Statement of Nondiscrimination

LBCC prohibits unlawful discrimination based on race, color, religion, ethnicity, use of native language, national origin, sex, sexual orientation, gender, gender identity, marital status, disability, veteran status, age, or any other status protected under applicable federal, state, or local laws. For further information see Board Policy P1015 in our Board Policies and Administrative Rules. Title II, IX, & Section 504: Scott Rolen, CC-108, 541-917-4425; Lynne Cox, T-107B, 541-917-4806, LBCC, Albany, Oregon. To report: linnbenton-advocate.symplicity.com/public-report.

Know your rights and responsibilities

LBCC students have rights: the right to free speech, the right to assemble, the right of a free press, etc. LBCC students also have responsibilities to their community: the responsibility to participate and engage in class, the responsibility to advocate for their needs (ask for help), the responsibility to support a respectful teaching and learning environment, the responsibility to treat all persons with respect, the responsibility to be truthful and honest in all work and communications, and the responsibility to follow staff directions, local, state, and federal laws.

Rights and responsibilities balance together to create the best learning environment. For example, while you have free speech in the café or courtyard, in class the instructor

decides whose turn it is to talk and what the topics for conversation will be. Students are free to believe what they believe, but instructors may require students to learn and recite concepts, principles, or theories for a class even if the student does not believe those concepts. You play a role in creating a positive community at LBCC.

Please review your rights and responsibilities (<http://linnbenton.edu/go/studentrights>).

If you believe a student is violating your rights, ask to be treated with respect. If that does not cure the situation, report to Associate Dean Jill Childress. If you believe a faculty member or LBCC employee is violating your rights, please report to Human Resources, Scott Rolen, Calapooia Center Rm. 108.

Changes to the Syllabus

I reserve the right 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.

Proposed Class Schedule

Week 1: March 28-April 3

- Due Thursday at 10 am: Module Guide 1, Road Check 1
- Due Sunday at 11:59 pm: Lab: Geologic Skills, Quiz 1
- Focus/Topics: Introduction to Historical Geology
- **April 1: College Closed for Inservice**

Week 2: April 4-April 10

- Due Thursday at 10 am: Module Guide 2, Road Check 2
- Due Sunday at 11:59 pm: Lab: Plate Tectonics, Quiz 2
- Focus/topic: Plate Tectonics

Week 3: April 11-April 17

- Due Thursday at 10 am: Module Guide 3, Road Check 3
- Due Sunday at 11:59 pm: Lab: Sedimentary rocks and environments, Quiz 3
- Focus/topic: Interpreting Past Environments

Week 4: April 18-April 24

- Due Thursday at 10 am: Module Guide 4, Road Check 4
- Due Sunday at 11:59 pm: Lab: Geologic Time, Quiz 4
- Focus/topic: Geologic Time, Relative and Numerical Dating

Week 5: April 25-May 1

- Due Thursday at 10 am: Module Guide 5, Road Check 5
- Due Sunday at 11:59 pm: Lab: Impact Cratering, Quiz 5

- Focus/topic: Earth: The First Four Billion Years

Week 6: May 2-May 8

- Due Thursday at 10 am: Reading Quiz on Biodiversity Crisis, and Road Check 6
- Due Sunday at 11:59 pm: Lab: Fossils and Extinction, Quiz 6
- Focus/topic: Overview of the History of Life and Mass Extinctions

Week 7: May 9-May 15

- Due Thursday at 10 am: Reading Quiz on assigned reading and Discussion Post, Road Check 7
- Due Sunday at 11:59 pm: Lab: The Day the Mesozoic Died, Quiz 7
- Focus/topic: Causes of Mass Extinctions: focus on P-Tr and K-Pg Mass Extinctions
- **May 15: Last Day to Withdraw From a Class**

Week 8: May 16-May 22 (*May 18--Happy Mt. St. Helens Eruption Day*)

- Due Thursday at 10 am: Earth Systems Assignment and Road Check 8
- Due Sunday at 11:59 pm: Lab: Earth Systems
- Focus/topic: Earth's Climate History and the Earth Systems

Week 9: May 23-29

- Due Thursday at 10 am: Dinosaurs: Fact or Fiction Assignment, Road Check
- Due Sunday at 11:59 pm: Lab: Evolution of Horses, Quiz 8
- Focus/topic: Adaptive Radiation: Impact of Environmental Change on Organisms

Week 10: May 30-June 5

- Due Thursday at 10 am: Reading Quiz on Biodiversity Crisis and Conservation
- Due Sunday at 11:59 pm: Lab: Conservation Letter, Road Check
- Focus/topic: Anthropocene, the Sixth Extinction, and Biodiversity
- **College Closed May 30 for Memorial Day**

Week 11: June 6-June 8

- Due: Final Exam (comprehensive, weeks 1-10), opens June 6, closes June 8 at 11:59 pm