

Course Prefix/Number/Title: GEOL 100 Introduction to Earth Science

Number of Credits: 4

Course Description: A lecture and laboratory course which surveys topics in geology, oceanography, meteorology, and astronomy. Through field experiences and labs, students will focus on the cycles and processes that shape the earth and our universe.

This class meets the requirements for a general education science, especially appropriate as a science for educators course.

Pre-/Co-requisites: None.

Course Objectives: Students successfully completing this course will:

- 1.) Know and understand Planet Earth through the study of complex geosystems that interact across a wide range of spatial and temporal scales.
- 2.) Understand and apply principles of the scientific method through field experience and experiments.
- 3.) Gain experience in critically evaluating scientific information in visual and written forms.

Instructor: Michelle Cauley

Office: Molberg 22

Office Hours: M / T 12:00 – 2:00 PM

Phone: 701-228-5498

Email: Michelle.cauley@dakotacollege.edu

Lecture Schedule: MWF 9:00 – 9:50 a.m.

Lab (choose one): T 8:00 – 9:50 a.m. OR TH 9:00 – 10:50

Textbook(s): Earth Science; An Introduction., Hendrix, Marc S., Thompson, Graham R., Turk, Jonathan.
Copyright 2021 ISBN: 978-0-357-11656-2

Course Requirements: This is an introductory course that allows for building a foundation in many learning areas. Students are graded on various learning tasks including weekly assignments, quizzes, exams, and labs.

| Assessment Tool: | Percentage of your Grade: | | Grading Scale |
|-------------------------|----------------------------------|--|----------------------|
| Quizzes | 10% | | A = 90 – 100% |
| Labs | 30% | | B = 80 – 89.9% |
| Assignments / Homework | 20% | | C = 70 – 79.9% |
| Unit Tests / Final Exam | 20% | | D = 60 – 69.9% |
| Final Project | 10% | | F = 0 – 59.9% |
| Professionalism | 10% | | |

Quizzes: There will be a series of 12 quizzes throughout the semester from various chapters. The two lowest scores will be dropped from your grade.

Labs: Labs will give an opportunity to connect lectures and readings with interactive and hands-on opportunities. Labs are the basis for our study and learning – labs are required. Missed labs must be made up within 2 weeks of missing or given a score of 0.

Assignments / Homework: There will be a combination of assigned readings, in-class worksheets, and traditional assignments. Homework must be submitted on time to receive full credit. 10% will be taken off per week if the assignment is late.

Unit Tests and Final Exam: There will be three unit-based tests and one final exam throughout the semester. These will be available to be completed online through Blackboard. Unit Tests and your Final Exam will be open for one week (seven days) and you will have unlimited time to take them within the testing window.

Final Project: Students will select from various topics of interest for their final project. They will take their chosen topic and create a presentation and activity to showcase their knowledge of this topic.

Professionalism: Your grade will also be determined by your professionalism in this course. Attendance, timeliness in meeting deadlines, participation, engagement in learning, respectful actions, communication – these will all be factored into your final grade in this course. Just like in the real world, professionalism matters.

Tentative Course Outline:

| Week | Over Arching Topics / Chapters | Reading Assignments | Tests / Quiz Schedule |
|--------------------------|---|-------------------------------------|------------------------------|
| August 26 - 30 | Introduction, Review Syllabus, Earth Systems - Overview | Welcome Letter, Syllabus, Chapter 1 | Syllabus Quiz |
| September 2 – 6 | Minerals, Rocks | Chapter 2, 3 | Chapter Quiz |
| September 9 – 13 | Geologic Time and Resources | Chapter 4, 5 | Chapter Quiz |
| September 16 – 20 | Active Earth – Earthquakes | Chapter 6, 7 | Exam 1 (Ch 1-7) |
| September 23 – 27 | Active Earth – Mountains, Volcanoes | Chapter 8, 9 | Chapter Quiz |
| September 30 – October 4 | Freshwater Resources | Chapter 11,12 | Chapter Quiz |
| October 7 - 11 | Deserts and Glaciers | Chapter 13, 14 | Chapter Quiz |

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|-------------------------|---|----------------|------------------------------|
| October 14 - 18 | Ocean Basins and Coasts | Chapter 15, 16 | Exam 2 (Ch. 8, 9, 11-16) |
| October 21 - 25 | The Atmosphere | Chapter 17, 18 | Chapter Quiz |
| October 28 – November 1 | Clouds and Weather | Chapter 19 | Chapter Quiz |
| November 4 – 8 | Weather Hazards, Weather Mapping | Chapter 19 | Chapter Quiz |
| November 11 – 15 | Climate / Climate Change | Chapter 20-21 | Chapter Quiz |
| November 18 – 22 | Motions in the Heavens | Chapter 22 | Exam 3 (Ch. 17-22) |
| November 25 - 29 | Planets and Their Moons | Chapter 23 | Chapter Quiz |
| December 2 – 6 | Stars Space Galaxies | Chapter 24 | Chapter Quiz |
| December 9 – 13 | Space Exploration Final Project Presentations | Chapter 25 | Chapter Quiz |
| December 16 - 20 | Final Review | Finals Week! | Final Exam (Chapter 23 – 25) |

General Education Competency/Learning Outcome(s) OR CTE Competency/Department Learning Outcome(s): .

1. Applies the Scientific Methods of Inquiry
 - a. Utilizes the scientific process to solve problems.
 - b. Interprets experimental data to draw logical conclusions
 - c. Applies technology in the scientific process
2. Applies scientific information in everyday life.
 - a. Recognizes the role of science in nature and society.
 - b. Utilizes scientific information in daily decision making

Relationship to Campus Focus: A greater understanding of the Earth, its resources, and our connection to the planet's systems. Through this class we will explore how decisions in our lives impact the planet's resources and their viability for the future.

Classroom Policies:

- Students are expected to be polite and respectful of the instructor, other students, and any guests in our class. Earbuds are expected to be out of ears, phones on silent.
- Lecture outlines are available from the course shell. The outlines can be used to guide you in the understanding of material and are useful in notetaking.
- All assignments are due in a timely fashion. Each week an assignment is not turned in, 10% of the total score is lost.
- If a student is to miss an exam or quiz, it must be taken ahead of time for full credit.
- When in doubt – communicate! Email and office hours are the easiest ways to let your instructor know of any issues or emergencies that arise.

Student Email Policy: Dakota College at Bottineau is increasingly dependent upon email as an official form of communication. A student's campus-assigned email address will be the only one recognized by the Campus for official mailings. The liability for missing or not acting upon vital information conveyed via campus email rests with the student.

Academic Integrity: According to the DCB Student Handbook, students are responsible for submitting their own work. Students who cooperate on oral or written examinations or work without authorization share the responsibility for violation of academic principles, and the students are subject to disciplinary action even when one of the students is not enrolled in the course where the violation occurred. The Code detailed in the Academic Honesty/Dishonesty section of the Student Handbook will serve as the guideline for cases where cheating, plagiarism or other academic improprieties have occurred.

- **AI Tools:** Artificial Intelligence tools like ChatGPT and other copilots are **not** prohibited in the course. In fact, we will explore their uses (and potential issues) throughout the semester. Keep in mind that:
 - You must submit original work (not generated by AI) for all assessments in this course. That means citing if you use AI-generated text and how you apply it in your work.
 - Large language models (LLM) like ChatGPT have been known to supply inaccurate information and fake citations. Use your information literacy skills to corroborate AI information if you are using it in your research. Failure to cite your use of AI or fabricated information could result in your violation of the Academic Integrity Policy (see above).
 - Different assignments will allow different levels of AI use. Read directions and prompts carefully. AI is useful but does not take the place of the human elements of critical thinking and emotion.

Disabilities or Special Needs: Students with disabilities or special needs (academic or otherwise) are encouraged to contact the instructor and Disability Support Services.

Title IX: Dakota College at Bottineau (DCB) faculty are committed to helping create a safe learning environment for all students and for the College as a whole. Please be aware that all DCB employees (other than those designated as confidential resources such as advocates, counselors, clergy, and healthcare providers) are required to report information about such discrimination and harassment to the College Title IX Coordinator. This means that if a student tells a faculty member about a situation of sexual harassment or sexual violence, or other related misconduct, the faculty member must share that information with the College's Title IX Coordinator. Students wishing to speak to a confidential employee who does not have this reporting responsibility can find a list of resources on the DCB Title IX webpage.