College of Sciences & Mathematics – Course Syllabus & Policy

GEOL 1303.004
Introductory Geology
T/TH: 11:00 AM – 12:15 PM, Miller Science, Room 335

Instructor – Dr. Jenny Rashall

✦ Email: jenny.rashall@sfasu.edu
✦ Phone: (936) 468-2340
✦ Office: E.L. Miller Science, Room 305
✦ Office hours (via Zoom): Monday/Wednesday: 1:30 PM – 3:00 PM; Tuesday/Thursday: 2:00 PM – 3:00 PM

Please feel free to request a Zoom meeting during my office hours to ask questions, discuss any problems you may be having with the material, or to help facilitate further understanding. If the above hours conflict with your schedule, please email me to make an appointment.

Course Materials:

✦ Essentials of Geology (6th Edition), Stephen Marshak (recommended*)
*Textbook is NOT required for Fundamentals of Earth Science. However, this text is a very useful learning tool as it is closely tied to the lecture material. I recommend purchasing or renting a copy if you feel that you may need “intellectual reinforcement” for the course.

Course Description: Introductory Geology (GEOL 1303) - Four semester hours, three hours lecture, two hours laboratory per week. Designed for the student with no geology background. Introduction to the study of minerals, rocks, and the processes that modify and shape the surface features of the Earth. Focus on energy, mineral and water resources; volcanism; and other practical aspects of geology. No prerequisite. Corequisite GEOL 1103.

Course Modality: You have the option to attend lecture face-to-face, via livestream (Zoom), or you may watch videos of the lecture in your own time. You are not required to choose one option for the entire semester, all students are welcome to fluctuate between the modalities as they prefer. The modality for lab will be outlined in the syllabus for GEOL 1103.

Note: I am not involved in the laboratory course (GEOL 1103) and I do not have access to the D2L course page for GEOL 1103. Any questions regarding lab should be directed to Mr. Wesley Turner, the laboratory coordinator, or your assigned graduate teaching assistant.

Program Learning Outcomes: After successful completion of this course students will be able to:

PLO 1 - Demonstrate knowledge of the fundamental core geologic concepts (Mineralogy, Petrology, Structural Geology, Stratigraphy, Geophysics and Geochemistry). (Concepts)

PLO 2 - Execute geologic procedures and methods accurately, appropriately and efficiently. (Skills)
PLO 3 - Apply principles of logic and reasoning to develop and analyze geologic problems. (Logical - Reasoning)

PLO 4 - Demonstrate competence in using various geologic tools, including technology, to formulate, represent, and solve problems. (Critical thinking - Problem Solving)

PLO 5 - Demonstrate proficiency in communicating geologic information in an appropriate form to the expected audience. (Communication)

General Education Core Curriculum Objectives & Outcomes: The Texas Higher Education Coordinating Board has identified six core learning objectives: Critical Thinking Skills, Communication Skills, Empirical and Quantitative Skills, Teamwork, Personal Responsibility, and Social Responsibility. SFA is committed to the improvement of its general education core curriculum by regular assessment of student performance on these six objectives.

By enrolling in GEOL 1303, Intro Geology, you are also enrolling in a Core Curriculum Course that fulfills the Life and Physical Sciences requirement and seeks to develop the following core objectives established by the THECB:

✧ Critical Thinking Skills – creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
  ○ Students will learn various properties of rocks and mineral and use those properties identify and distinguish between different types of rocks and minerals.

✧ Communication Skills – effective development, interpretation and expression of ideas through written, oral and visual communication.
  ○ Throughout the semester, students will participate in discussions on various topics and share their ideas and interpretations of course material with classmates.

✧ Empirical & Quantitative Skills – manipulation and analysis of numerical data or observable facts in informed conclusions.
  ○ Students will identify geologic features of deformation in photographs and use those features to infer deformation events.

✧ Teamwork – the ability to consider different points of view and to work effectively with others to support a shared purpose or goal.
  ○ In discussions on various topics throughout the semester, students will share and contrast differing viewpoints in order to draw conclusions.

✧ Personal Responsibility – to include the ability to connect choices, actions and consequences to ethical decision-making.
  ○ In the Precious Resources unit, we will explore how each person’s choices can influence the environment.

✧ Social Responsibility – to include intercultural competence, knowledge of civic responsibility, and the ability to engage effectively in regional, national, and global communities.
  ○ In the Precious Resources unit, we will explore how different communities are affected by climate change and limited natural resources.

Student Learning Outcomes:
After successful completion of this course students will be able to:

SLO 1 - Demonstrate an understanding of fundamental geologic concepts as it relates to Earth processes and landscape evolution through geologic time. (Critical Thinking, Empirical and Quantitative Skills)
SLO 2 - Use quantitative reasoning to interpret geologic data (tables, figures, graphs) from primary research, data assimilation and models to assess the differences in competing scientific theories associated with rock formation. (Critical Thinking, Empirical and Quantitative Skills)

SLO 3 - Demonstrate knowledge on the interdependence of science and technology and the influences geologic reasoning associated with identifiable and testable hypotheses of geologic processes. (Critical Thinking, Teamwork)

SLO 4 - Critically assess the interrelationships between geologic phenomena and communicate the resulting conclusions in visual and written formats. (Critical Thinking, Communication, Empirical and Quantitative Skills, Teamwork)

SLO 5 - Demonstrate an understanding of the skills and attitudes necessary for effective teamwork in collaborative learning activities. (Communication, Teamwork)

Course Requirements:
GEOL 1303 is an introduction to the fascinating and complex processes of planet Earth – an ever-changing dynamic environment. Billions of years of processes, both tranquil and violent, have sculpted the surface of the earth and helped create the landforms we see today and the study of geology is the key to understanding these processes. Current technology gives us keys to understanding the development of continents, ocean basins, mountain chains, volcanoes, earthquakes and many other cataclysmic events. Geology is also the study of the earth’s resources; how they form, where to find them, ways we extract them and how we plan to protect and preserve them for future generations. This class is a 4-credit hour course and has a weekly requisite lab where you will gain hands-on experience with minerals, rocks, and topographic maps. Grades from the lecture and lab will be separate.

Grading Breakdown & Policy:

- 10 Quizzes/activities – 1.5% each (= 15% of course grade; 11 quizzes will be given, the lowest quiz grade will be dropped)
- 5 Discussions – 2% each (= 10% of course grade; 6 discussions will be assigned, the lowest discussion grade will be dropped)
- 4 Video Assignments – 2.25% each (= 9% of course grade)
- 4 Exams (none are comprehensive) – 16.5% each (= 66% of course grade)

Grading scale – A: 100-90; B: 89-80; C: 79-70; D: 69-60; F: < 60

Exams:
All lecture exams will include true/false and multiple choice questions with additional questions that may vary between exams but could include any or all of the following sections: 1) fill in the blank questions; 2) matching; 3) figure illustration; 4) multi-select. All lecture exams will be administered via D2L.
Lecture exams will cover material from lecture and any activities/assigned reading material in or outside of class. The final exam will be administered on the University’s scheduled date.

Make-up exams will only be held on Friday of the week preceding final exams (i.e., Friday of “dead week”).
Quizzes/activities:
Quizzes/activities will occasionally be administered via D2L. Eleven (11) quizzes/activities will be administered but only the highest ten (10) grades will count for each student. No make-up assignments without prior notice or supporting documentation. No exceptions.

Quizzes/activities will be randomly assigned throughout the semester as announced in lecture and via D2L “News Items” and are not included on the semester calendar. All activities will be available for a minimum of 48 hours after opening. You will need to check the D2L “News Items” regularly to be sure you do not miss any.

Online Discussion Posts:
Throughout the course of the semester, you will be prompted to engage in six (6) discussion posts. This may include content from the lecture, required reading assignments, or outside sources. Some discussions may require peer responses for full credit, be sure to read the instructions for each discussion completely.

Video Assignments:
Throughout the course of the semester, you will have four (4) video assignments to complete. For the assignment, you will have a series of videos (approximately 30 – 45 minutes total for each assignment) pertaining to course topics that you are required to watch in your own time. I will provide you a list of questions to answer regarding the videos and submit via a designated dropbox.

The video assignments will each correspond to a different unit (see schedule below) and will be due the night before that unit’s corresponding exam. For example, Video Assignment 1 will include videos pertaining to topics from Unit 1, and it will be due the night before Exam 1 opens. Video assignments for each unit will be introduced at the beginning of each unit and you will have the entire time period to work through the video assignments at your own pace.

Attendance:
Attendance will be gauged through your activity in our online course platform (Brightspace/D2L). You are responsible for either coming to face-to-face lecture, attending via Zoom, or watching the uploaded videos in a timely manner.

Academic Integrity (4.1):
Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

Definition of Academic Dishonesty:
Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one’s own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3)
incorporating the words or ideas of an author into one's paper without giving the author due credit.

Please read the complete policy at http://www.sfasu.edu/policies/student-academic-dishonesty-4.1.pdf

Withheld Grades Semester Grades Policy (5.5):

Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average.

Students with Disabilities:

To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/.

Mental Health and Wellness

SFA values students’ mental health and the role it plays in academic and overall student success. SFA provides a variety of resources to support students’ mental health and wellness. Many of these resources are free, and all of them are confidential.

On-campus Resources:

SFA Counseling Services
www.sfasu.edu/counselingservices
Rusk Building, 3rd Floor
936.468.2401

SFA Human Services Counseling Clinic
www.sfasu.edu/humanservices/139.asp
Human Services, Room 202
936.468.1041

Crisis Resources:
Burke 24-hour crisis line: 1.800.392.8343
Suicide Prevention Lifeline: 1.800.273.TALK (8255)
Crisis Text Line: Text HELLO to 741-741
# Course Schedule*

<table>
<thead>
<tr>
<th>Session</th>
<th>Lecture Topic</th>
<th>Chapter from <em>Essentials of Geology</em></th>
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<tbody>
<tr>
<td><strong>UNIT 1: THE DYNAMIC EARTH</strong></td>
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<tr>
<td>Aug. 24</td>
<td>Syllabus Overview; What is Geology?</td>
<td>Prelude; Ch. 1: The Earth in Context</td>
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<tr>
<td>Aug. 26</td>
<td>Origins of the Solar System</td>
<td>Ch. 1: The Earth in Context</td>
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<tr>
<td>Aug. 31</td>
<td>The Earth Systems</td>
<td>Ch. 1: The Earth in Context</td>
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<tr>
<td>Sep. 2</td>
<td>Plate Tectonics</td>
<td>Ch. 2: The Way Earth Works: Plate Tectonics</td>
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<tr>
<td>Sep. 7</td>
<td>Plate Tectonics (continued)</td>
<td>Ch. 2: The Way Earth Works: Plate Tectonics</td>
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<tr>
<td>Sep. 9</td>
<td>Earth Materials - Minerals</td>
<td>Ch. 3: Patterns in Nature - Minerals</td>
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<tr>
<td>Sep. 14–15</td>
<td>EXAM 1 (Open 9/14 at 6:00 AM – 9/15 at 11:59 PM)</td>
<td>Chapters 1, 2, 3</td>
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<td><strong>UNIT 2: THE ROCK CYCLE</strong></td>
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<tr>
<td>Sep. 16</td>
<td>Igneous Rocks - Processes, Properties, &amp; Classification</td>
<td>Ch. 4: Up from the Inferno: Igneous Rocks</td>
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<tr>
<td>Sep. 21</td>
<td>Sedimentary Rocks - Processes &amp; Classification)</td>
<td>Ch. 6: Pages of Earth’s Past: Sedimentary Rocks</td>
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<tr>
<td>Sep. 23</td>
<td>Metamorphic Rocks - Processes &amp; Classification</td>
<td>Ch. 7: Metamorphism: A Process of Change</td>
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<td>Sep. 28</td>
<td>Geologic Time Pt. 1</td>
<td>Ch. 10: Deep Time: How Old is Old?</td>
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<td>Sep. 30</td>
<td>Geologic Time Pt. 2 &amp; Biography of Earth Pt. 1</td>
<td>Ch. 10 &amp; Ch. 11</td>
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<td>Oct. 5</td>
<td>Biography of Earth Pt. 2</td>
<td>Ch. 11: A Biography of Earth</td>
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<tr>
<td>Oct. 7–8</td>
<td>EXAM 2 (Open 10/7 at 6:00 AM – 10/8 at 11:59 PM)</td>
<td>Chapters 4, 6, 7</td>
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<td><strong>UNIT 3: GEOLOGIC PROCESSES</strong></td>
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<td>Oct. 12</td>
<td>Volcanoes</td>
<td>Ch. 5: The Wrath of Vulcan: Volcanic Eruptions</td>
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<td>Oct. 14</td>
<td>Earthquakes</td>
<td>Ch. 8: A Violent Pulse: Earthquakes</td>
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<td>Oct. 19</td>
<td>Mass Wasting</td>
<td>Ch. 13: Unsafe Ground: Landslides and Other Mass Movements</td>
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<td>Oct. 21</td>
<td>Structural Geology &amp; Orogenesis</td>
<td>Ch. 9: Crags, Cracks, and Crumples</td>
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<td>Oct. 26</td>
<td>Fluvial Systems</td>
<td>Ch. 14: Streams &amp; Floods</td>
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<tr>
<td>Oct. 28</td>
<td>Marine Systems</td>
<td>Ch. 15: Restless Realm: Oceans &amp; Coasts</td>
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<tr>
<td>Nov. 2</td>
<td>Desert Systems</td>
<td>Ch. 17: Dry Region: The Geology of Deserts</td>
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<td>Nov. 4–5</td>
<td>EXAM 3 (Open 11/4 at 6:00 AM – 11/5 at 11:59 PM)</td>
<td>Chapters 5, 8, 10, 14, 15</td>
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<td><strong>UNIT 4: PRECIOUS RESOURCES</strong></td>
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<td>Nov. 9</td>
<td>Glacial Systems</td>
<td>Ch. 18: Amazing Ice: Glaciers and Ice Ages</td>
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<td>Nov. 11</td>
<td>Groundwater &amp; the Hydrologic Cycle</td>
<td>Ch. 16: A Hidden Reserve: Groundwater</td>
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<td>Date</td>
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<tr>
<td>Nov. 16</td>
<td>Hydrocarbon Systems</td>
<td>Ch. 12: Riches in Rock</td>
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<tr>
<td>Nov. 18</td>
<td>Coal &amp; Mineral Resources</td>
<td>Ch. 12: Riches in Rock</td>
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<td><strong>THANKSGIVING BREAK: No Class 11/21 – 11/27</strong></td>
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<tr>
<td>Nov. 30</td>
<td>Alternative Energy</td>
<td>N/A</td>
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<tr>
<td>Dec. 2</td>
<td>Global Change</td>
<td>Ch. 19: Global Change in the Earth System</td>
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<tr>
<td>Dec 7-9</td>
<td><strong>EXAM 4 (Open 12/7 at 6:00 AM – 12/9 at 11:59 PM)</strong></td>
<td>Chapters 12, 16, 19 and other material</td>
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*As the instructor of this course, I, Dr. Jenny Rashall, reserve the right to alter this schedule as needed throughout the semester. All students will be notified via D2L if any changes to the schedule are necessary and an updated syllabus will be provided.

Reminder – Quizzes/activities/discussions will be assigned randomly throughout the semester and are not included in the calendar above. See the Quizzes/Activities/Discussions section of the syllabus for additional information. Video assignments are due the night before the corresponding exam opens.