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Office Hours: MW 8:30-10, TR 8-9:30, T 12:30-2 and by appointment

**ENVIRONMENTAL GEOLOGY Lab** – GEOL 1105, Fall, 2021; M 3-5

**GENERAL DESCRIPTION OF THE COURSE:**

This course is designed to teach the student the fundamental concepts of environmental geology. We will begin with a review of basic geology, and then apply that to a comprehensive survey of environmental issues. There are no prerequisites, so we will start at the very beginning. The content covered is global and local in scale. Your instructor has decades of experience in studying local environmental issues, so this will be an important component of the class. Surface and ground water concepts will be focal points, as well as environmental impacts related to oil and gas activities. Lab activities will build on content discussed in class.

**Materials Required:**

Text: Environmental Geology Laboratory Manual by Tom Freeman, 2<sup>nd</sup> edition

**General Objectives: Each student will develop:**

1. Knowledge about the application of the scientific method as a tool for understanding Earth's processes
2. Knowledge about the composition and formation of common rocks and minerals
3. An understanding of hazardous earth processes
4. An understanding of how the extraction and use of natural resources affects our environment
5. A general knowledge of Earth climate and changes to this climate

**Student Learning Objectives: Each student will demonstrate the ability to:**

1. Identify and interpret common rocks and minerals, understand soils
2. Understand the basic concepts of the connection between the biology and geology
3. Understand natural hazards, including these related to river systems, landslides, earthquakes, volcanoes, coasts and meteorite impacts
4. Understand and discuss current issues pertaining to water resources, water pollution, and the impacts on these from mineral and energy resource extraction and use.
5. Understand basic issues of climate change

**Grading:**

- Labs – there will be 10 labs worth 10 points each (67% of grade)
- Midterm – one midterm (17%)
- Final – one final exam (17%)

	Points each	Number	Total	%
Labs	10	10	100	67%
Midterm	25	1	25	17%
Final	25	1	25	17%

week	Date	Topic
1	8/23	No lab
2	8/30	Maps
3	9/6	Minerals
4	9/13	Igneous Rocks
5	9/20	Metamorphic Rocks
6	9/27	Weathering
7	10/4	Plate Tectonics
8	10/11	Lab Midterm
9	10/18	Earthquakes
10	10/25	Streams and Rivers
11	11/1	Groundwater
12	11/8	Slopes and Subsidence
13	11/15	Atmosphere and Oceans
14	11/22	Waste and Water
15	11/29	Lab Final

Your accumulated grades will be recorded on Blackboard in the Grade Center.

**Letter Grading:** Final course grade will be based on a percentage in the standard grading system: 100-90 (A), <90-80 (B); <80-70 (C), <70-60 (D), <60 (well, you know what, let's not have any of those...)

### **Attendance and Make-up Policy:**

The only acceptable excuses for missing class are those due to illness, approved Sul Ross sanctioned events, and observation of religious holidays. All excused absences **must be** documented on paper. Please inform the professor at least 1 week prior to missing class (e-mail, note on office door, etc....). With an appropriate excuse, you must make up missed quizzes/exams **within 10 days** of the last day of the absence or you have failed to meet your course responsibilities and will receive a zero. University policy dictates that your instructor can drop you with an F from the course after 6 absences from TR classes or after 9 absences from MWF classes.

Skills:

- Critical Thinking. Students will develop critical thinking skills to include creative thinking, innovation, inquiry, and analysis, evaluation and synthesis of information.
- Empirical & Quantitative Skills. Students will develop empirical and quantitative skills to include the manipulation and analysis of numerical data or observable facts resulting in informed conclusion

### **Libraries**

The Bryan Wildenthal Memorial Library in Alpine offers FREE resources and services to the entire SRSU community. Access and borrow books, articles, and more by visiting the library's website, [library.sulross.edu](http://library.sulross.edu). Off-campus access requires logging in with your Lobold and password. Librarians are a tremendous resource for your coursework and can be reached in person, by email ([srsulibrary@sulross.edu](mailto:srsulibrary@sulross.edu)), or phone (432-837-8123).

### **Academic Integrity:**

Students in this class are expected to demonstrate scholarly behavior and academic honesty in the use of intellectual property. A scholar is expected to be punctual, prepared, and focused; meaningful and pertinent participation is appreciated. Examples of academic dishonesty include but are not limited to: Turning in work as original that was used in whole or part for another course and/or professor; turning in another person's work as one's own; copying from professional works or internet sites without citation; collaborating on a course assignment, examination, or quiz when collaboration is forbidden.

### **Classroom Climate of Respect**

Importantly, this class will foster free expression, critical investigation, and the open discussion of ideas. This means that all of us must help create and sustain an atmosphere of tolerance, civility, and respect for the viewpoints of others. Similarly, we must all learn how to probe, oppose and disagree without resorting to tactics of intimidation, harassment, or personal attack. No one is entitled to harass, belittle, or discriminate against another on the basis of race, religion, ethnicity, age, gender, national origin, or sexual preference. Still we will not be silenced by the difficulty of fruitfully discussing politically sensitive issues.

### **Diversity Statement**

I aim to create a learning environment for my students that supports a diversity of thoughts, perspectives and experiences, and honors your identities (including race, gender, class, sexuality, religion, ability, socioeconomic class, age, nationality, etc.). I also understand that the crisis of COVID, economic disparity, and health concerns, or even unexpected life events could impact the conditions necessary for you to succeed. My commitment is to be there for you and help you meet the learning objectives of this course. I do this to demonstrate my commitment to you and to the mission of Sul Ross State University to create an inclusive environment and care for the whole student as part of the Sul Ross Familia. If you feel like your performance in the class is being impacted by your experiences outside of class, please don't hesitate to come and talk with me. I want to be a resource for you.