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

ENVIRONMENTAL GEOLOGY – GEOL 1305, Fall, 2021; MWF 10-10:50

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, mining and climate change. Lab activities (lab is a separate class) will build on content discussed in class.

Materials Required:

Text: Keller, E.A., Environmental Geology, 9th edition

Lab is a separate class and will have a separate syllabus

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. Describe the basic concepts of the connection between the biology and geology
3. Interpret natural hazards, including these related to river systems, landslides, earthquakes, volcanoes, coasts and meteorite impacts
4. Explain current issues pertaining to water resources, water pollution, and the impacts on these from mineral and energy resource extraction and use
5. Evaluate basic issues pertaining to climate change

Grading:

- Blackboard quizzes: weekly quizzes will be issued to encourage students to keep up with the material. These will be completed outside of class time
- Plickers quizzes: These will be issued weekly during class
- Journal entries: Journal entries will be required on a weekly basis. These will cover contemporary topics related to the class content

- Exams: 2 midterms and one final exam will be given
- Field component: There will be several field trip opportunities during the semester. Students will be required to participate in at least one of these and complete a trip report.
- Term Presentation – students will be required to make 1 in-class presentation on an environmental topic approved by the instructor

	each	number	total	percent
Blackboard quizzes	5	15	75	10%
Plickers quizzes	5	15	75	10%
Blackboard journal entries	5	15	75	10%
Exam 1	100	1	100	14%
Exam 2	100	1	100	14%
Exam 3	100	1	100	14%
Field component	100	1	100	14%
Term project	100	1	100	14%
			725	

Your accumulated grades will be recorded in 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.

week	Date	Chapter	Topic
1	8/23	1	Intro
	8/25		
	8/27		
2	8/30	2	Earth Materials
	9/1		
	9/3		
3	9/6	3	Soils and the Environment
	9/8		
	9/10		
4	9/13	4	Ecology and Geology
	9/15		
	9/17		
5	9/20	5	Natural Hazards
	9/22		
	9/24		
6	9/27	7,8	Landslides, earthquakes
	9/29		EXAM 1
	10/1		
7	10/4	6	Rivers
	10/6		
	10/8		
8	10/11	9	Volcanoes
	10/13		
	10/15		
9	10/18	10,11	Coasts, meteorites
	10/20		
	10/22		
10	10/25	12	Water Resources
	10/27		EXAM 2
	10/29		
11	11/1	13	Water Pollution
	11/3		
	11/5		
12	11/8	14, 15	Mineral and energy resources
	11/10		
	11/12		
13	11/15	16	Climate change
	11/17		
	11/19		
14	11/22	16	Climate change
	11/24 to 26		Thanksgiving
15	11/29	17	Future
	12/1		
	12/3		Final exam 10:15

- 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. 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), or phone (432-837-8123).

The Southwest Texas Junior College (SWTJC) Libraries at Uvalde, Del Rio, and Eagle Pass offer additional access to library spaces and resources. Del Rio, Eagle Pass, and Uvalde students may also use online resources available through SWTJC website, library.swtjc.edu. The SWTJC Libraries serve as pick-up locations for InterLibrary Loan (ILL) and Document Delivery from the Alpine campus.

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.