Sul Ross State University GEOL 3412 – Geomorphology – Fall 2025

Instructor: Dr. Jesse Kelsch
Office: WSB 316
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Class time: MWF 9-9:50am, WSB 209
Office hours: Tue & Thur 12-2; Wed 2-3; and by appointment

COURSE DESCRIPTION

An introduction to the study of geologic processes operating at the Earth's surface and the landforms produced by those processes. Fluvial, glacial, coastal, groundwater, soil, and both wind and water weathering processes will be studied along with lithologic and structural influences. Labs include interpretation of air photos and topographic maps as well as field studies.

PRIMARY LEARNING OBJECTIVES

Each student will identify, compare/contrast, synthesize and apply bodies of information of Geology regarding the areas of Earth's surface processes and the landforms created by them.

STUDENT LEARNING OUTCOMES

The student will be able to apply a diverse body of geologic information in the areas of Earth history and field techniques.

MARKETABLE SKILLS

Student will be able to demonstrate critical thinking.
Student will be able to use library resources.
Student will be able to communicate in written and oral format.

METHODS OF ASSESSMENT/EVALUATION:

Primary learning objective assessment will be made on the basis of lab assignments, concept sketches, lecture exams, and presentations. The assignments and exercises will develop student identification, description and evaluation of geologic data and physical features. Lecture exams will consist of short-answer, essay, and multiple-choice questions to assess critical reasoning and problem-solving skills. All graded coursework will generate discussion of questions missed by a majority of the class, including question and answer logic and content.

GRADING

- There will be two exams, each worth 10% of your course grade. Exams consist of short answer, quantitative, and essay questions. Short answers almost always require that you draw a sketch. Makeup exams are only permitted by arrangement made with the instructor PRIOR to missing the exam. All makeup exams are 100% essay questions.
- Concept sketches will be assigned four times during the semester (see the course schedule). Each sketch is worth 7.5% of your final grade.
- The student will be required to complete two mini-projects of an abstract and a single slide presentation. These are each worth 10% of the course grade (5% for each abstract, 5% for each single slide).
- The lab assignments are in total worth 25% of your final course grade.
- Grades will be calculated via the following table of total percentage value for each assignment:

Item	Percent value
Two mini-projects	20
Four concept sketches	30
Two exams	20
Class participation	5
Labs	25
	100

SUL ROSS STATE UNIVERSITY ATTENDANCE AND CLASSROOM POLICIES:

Plagiarism/Cheating Policy: The student is referred to the student handbook on Academic Honesty. If you are caught cheating or plagiarizing you will either be brought before the dean of the College with expulsion proceedings initiated, or given an F in the course. All work turned in must be your own.

Generative Artificial Intelligence Policy: All assignments should be fully prepared by the student. Developing strong competencies in the skills associated with this course, from student-based brainstorming to project development, will prepare you for success in your degree pathway and, ultimately, a competitive career. Therefore, the use of generative AI tools to complete any aspect of assignments for this course are not permitted and will be treated as plagiarism. If you have questions about what constitutes a violation of this statement, please contact me.

ADA Statement

SRSU Accessibility Services. Sul Ross State University (SRSU) is committed to equal access in compliance with the Americans with Disabilities Act of 1973. It is SRSU policy to provide reasonable accommodations to students with documented disabilities. It is the student's responsibility to initiate a request each semester for each class. Students seeking accessibility/accommodations services must contact Mrs. Mary Schwartze Grisham, LPC, SRSU's Accessibility Services Director or Ronnie Harris, LPC, Counselor, at 432-837-8203 or email mschwartze@sulross.edu or ronnie.harris@sulross.edu. Our office is located on the first floor of Ferguson Hall, room 112, and our mailing address is P.O. Box C122, Sul Ross State University, Alpine. Texas, 79832.

Student Responsibilities Statement

All full-time and part-time students are responsible for familiarizing themselves with the Student Handbook and the Undergraduate & Graduate Catalog and for abiding by the University rules and regulations. Additionally, students are responsible for checking their Sul Ross email as an official form of communication from the university. Every student is expected to obey all federal, state and local laws and is expected to familiarize themselves with the requirements of such laws.

SRSU Distance Education Statement

Students enrolled in distance education courses have equal access to the university's academic support services, such as library resources, online databases, and instructional technology support. For more information about accessing these resources, visit the SRSU website.

Students should correspond using Sul Ross email accounts and submit online assignments through Blackboard, which requires a secure login. Students enrolled in distance education courses at Sul Ross are expected to adhere to all policies pertaining to academic honesty and appropriate student conduct, as described in the student handbook. Students in web-based courses must maintain appropriate equipment and software, according to the needs and requirements of the course, as outlined on the SRSU website. Directions for filing a student complaint are located in the student handbook.

CLASS SCHEDULE

This schedule is PLANNED, and is subject to minor modification as necessary during the semester. Reading assignment is the material from the textbook as listed as the discussion topic for that class period. There will also be papers from the literature assigned ahead of time.

week of	topic	Assignments and exams	lab
8.25	Introduction, Basic Landform Equation, form & process, Earth system	Physiographic province abstract & single slide	No lab this week
9/1	Presentation of physiographic provinces; Weathering *(no class 9/1: Labor Day)*		Topo maps, photos, GE
9/8	Weathering Soils	Soils concept sketches	Weathering types
9/15	Hydrology: precipitation, ET, groundwater, surface water		Soils
9/22	Hydrology: channels	Hydrologic cycle concept sketches	Rivers 1
9/29	Hydrology: drainage basins		Rivers 2
10/6	Hydrology: groundwater	EXAM 1	LAB MIDTERM
10/13	Hillslopes *(recorded class for 10/15 & /17 - GSA)*		Groundwater landforms
10/20	Karst *(recorded class for 10/20 & /22 - GSA)*		No lab: GSA
10/27	Coastal processes and landforms		Karst landforms
11/3	Glacial processes and landforms	Glacier concept sketches	Coastal landforms
11/10	Aeolian processes and landforms	Aeolian concept sketches	Glacial landforms
11/17	Volcanic landscapes		Aeolian landforms
11/24	Tectonic geomorphology *(no class 11/26 and 11/28: Thanksgiving)*	Choice of topic abstract & single slide	Make-up
12/1	Tectonic geomorphology (*last class period is 12/3)*		LAB FINAL
		EXAM 2	