

GEOLOGY 4401 - SEDIMENTARY PETROLOGY LAB

Fall 2023

Geology Program, Department of Biology, Geology and Physical Sciences
Sul Ross State University

Lab Wed 2-5

MonWedFri 9:00-9:50

Dr. Elizabeth Measures

office WSB 315

837-8117

measures@sulross.edu

Program office WSB 216

837-8112

OFFICE HOURS

Mon

2 pm to 3:30 pm

Tues Thrs

9 am to 10 am

Thrs

2:30 pm to 4 pm

or by appointment; call or email to arrange
weekly schedule is posted on office door**COURSE DESCRIPTION**

Laboratory work consists of examination, classification, description, classification, and interpretation of hand samples and thin sections of sediment and sedimentary rocks.

PREREQUISITES/CO-REQUISITES

Optical Mineralogy (GEOL 2405)

Stratigraphy and Sedimentation (GEOL 3408)

METHODS OF INSTRUCTION

Three-ish hours are allotted for the scheduled lab time. Open lab hours will be offered.

Lab is hands-on, each lab will consist of examination of sediment or rock specimen and/or examination of thin sections .

One to two, required, day-long field trips on a weekend. Other day trips or weekend trips possible and optional.

TEXT***Sedimentary Petrology***, 4th ed, 2023, by M. Tucker & S. Jones. **ISBN 978-1-118-78649-9**.

No lab text.

REFERENCE BOOKS/TEXTS

Books to be used for reference will be available in the lab.

MATERIALS

Notebook/paper

pencils

map pencils

hand lens

stapler

CLASS ATTENDANCE AND CONDUCT POLICY

- ★ Be on time to lab, attend all labs, and stay throughout the entire designated period.
- ★ Be engaged, awake, and on task.
- ★ Do not work on another class during this class.
- ★ Keep instructor informed either before anticipated absence or after unplanned absence.
- ★ Where possible, schedule routine medical/dental appointments around lab times.
- ★ If you are going to miss a lab, or have missed a lab, written notification (email) and documentation must be provided as soon as possible. Be sure to get the notes from another student in the class.
- ★ Short breaks can be taken during the lab period.
- ★ Do NOT leave lab before the end of the scheduled lab period.
- ★ Arrangements for missed labs must be made, and the make-up done, within one week of the scheduled due date. Points will be deducted for late work.
- ★ Missed labs must be done prior to the next lab period.
- ★ Late labs will not be accepted once graded labs are returned.
- ★ You are expected to observe the University's Code of Student Conduct (see the Student Handbook).

ELECTRONICS POLICY

- ★ Texting, checking email, playing games, surfing the internet, working on another class during labs is not acceptable.
- ★ Multitasking is not a good idea.
- ★ Smart phones, cell phones, i-pods, and laptops, can be on the desk during labs if space permits.
- ★ No earbuds to be worn during lab introduction.
- ★ Wearing earbuds during lab work is not recommended; impromptu lectures or discussions could be missed.
- ★ Electronics may be used during lab and for purposes of lab.
- ★ If electronics are accessed during a lab practical, then the practical will receive a grade of zero.
- ★ If an electronic device makes an audible noise during a lab practical, then the practical will receive a grade of zero.
- ★ Use of any AI on any lab will result in a grade of zero on the lab.

FIELD TRIP(S)

One to two, day-long field trip(s) and field exercise(s) are required.

DISABILITIES ACCOMMODATION ADA (Americans with Disabilities Act)

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 for accessibility services. Students seeking accessibility/accommodation services must contact Mrs. Mary Schwartz Grisham, LPC, SRSU's Accessibility Services Director at 432-837-8203 (leave a message and they will get back to you as soon as possible during working hours), or email mschwartz@sulross.edu. The office is located on the first floor of Ferguson Hall, room 112. The mailing address is P.O. Box C-122, Sul Ross State University, Alpine, Texas, 79832.

You will be provided with an accommodation letter which must be given to the instructor as early as possible in the semester.

GRADING AND ASSIGNMENTS

The semester grade:

50%	weekly lab assignments
30%	lab practicals
10%	weekly quizzes and lab attendance
10%	field exercise(s)

Grading Scale

100-90.00%	A	
89.99-80.00%	B	
79.99-70.00%	C	
69.99-60.00%	D	(D and lower does not count for Geology major credit)
<59.99%	F	

Lab grade will be included in final grade for the entire course. It will only count 35% toward the total final course grade.

Weekly lab Assignment – total of 12; Examination, description, analysis of sediment, rocks, and thin sections.

Lab Practical – total of 2; Examination, description, analysis of sediment, rocks, and thin sections.

Quizzes – 11 or less; over chapter material pertinent to daily lab; over previous week's lab

Field exercises – Hands-on application of content knowledge and methodologies to a real world project.

SCHEDULE IS TENTATIVE AND SUBJECT TO CHANGE

WEDNESDAY	
Aug 30	No lab
Sept 6	Particle Parameters
Sept 13	Clastics 1 - Conglomerate/Breccias
Sept 20	Clastics 2 - Sandstones Lecture Exam 1
Sept 27	Clastics 3 - Sandstones
Oct 4	Clastics 4 - Sandstones Clastics 5 - Mudrocks
Oct 11	Lab Practical 1
Oct 18	Carbonates 1
Oct 25	Carbonates 2
Nov 1	Carbonates 3
Nov 8	Carbonates 4
Nov 15	Miscellaneous Sedimentary Rocks 1
Nov 22	Thanksgiving Holiday No Class
Nov 29	Miscellaneous Sedimentary Rocks 2
Dec 6	Lab Practical 2

GEOLOGY UNDERGRADUATE PROGRAM (BS) STUDENT LEARNING OUTCOMES (SLO's):

1. The student will be able to apply a diverse body of Geologic information in the area of Earth history.
2. The student will be able to apply a diverse body of Geologic information in the area of mineralogy and petrology.
3. The student will be able to apply a diverse body of Geologic information in the area of structural geology and tectonics.
4. The student will be able to apply a diverse body of Geologic information in the area of stratigraphy.
5. The student will be able to apply a diverse body of Geologic information in the area of field techniques.

EXPECTED COURSE LEARNING OBJECTIVES:

At the end of the semester, the successful student will be able to apply critical reasoning and problem-solving skills to:

- ★ Identify, describe, and apply the basic classification schemes for identification of the sedimentary rock types (clastics, carbonates, cherts, evaporites, coals, phosphates, and iron deposits), in hand sample and thin section. (SLO 2)
- ★ Interpret and explain mechanisms and modes of transportation, deposition, and environment from examination of sediment and sedimentary rocks, in hand sample and thin section. (SLO 2)
- ★ Use basic geologic lab equipment (handlens, stereomicroscope and petrographic microscope) correctly and safely for the examination, description, and interpretation of sediment and sedimentary rocks. (SLO 2)
- ★ Integrate different lithologies into a facies model and use the mode, and stratigraphic relationships, to interpret the depositional history of a region. (SLO 1 and SLO 2 and SLO 4)
- ★ Summarize and synthesize all aspects of sedimentary petrology in a class capstone field exercise that requires analysis of a sedimentary rock outcrop through the design and creation of a descriptive measured section. (SLO 2 and SLO 5)

GEOLOGY UNDERGRADUATE (BACHELOR OF SCIENCE) STUDENT MARKETABLE SKILLS:

- ★ The student will be able to conduct fieldwork.
- ★ The student will be able to use field equipment.
- ★ The student will be able to use lab equipment.
- ★ The student will be able to use library resources.
- ★ The student will be able to communicate in written and oral format.

LIBRARY

The Bryan Wildenthal Memorial Library offers FREE resources and services to the entire community. The library's website, library.sulross.edu, has information on how to borrow or electronically access books, articles, and more. Off-campus access requires logging in with your LoboID and password. Librarians are a tremendous resource for coursework and can be reached by email (srsulibrary@sulross.edu) or phone (432-837-8123).

ACADEMIC INTEGRITY

Students are expected to demonstrate scholarly behavior and academic honesty in the use of intellectual property. Students should submit work that is their own. A scholar is expected to be punctual, prepared, and focused; meaningful and pertinent participation contributes to learning.

Examples of academic dishonesty include, but are not limited to:

- ☹ Turning in work as original that was used in whole or in part for another course and/or professor;
- ☹ Turning in another's person's work as one's own;
- ☹ Copying from professional works or internet sites without citation;
- ☹ Collaborating on a course assignment, exam, or quiz when collaboration is forbidden;
- ☹ Using AI for an assignment.

Violations of academic integrity can result in failing an assignment, failing the class, and/or more serious university consequences. These behaviors also erode the value of college degrees and higher education overall.

CLASSROOM CLIMATE OF RESPECT

This class fosters free expression, critical investigation, and open discussion of ideas. Everyone in the class must help create and sustain an atmosphere of tolerance, civility, and respect for the viewpoints of others. Similarly, all people in the class must 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. Discourse will not be silenced by the difficulty of fruitfully discussing politically sensitive issues.

DIVERSITY STATEMENT

This course is a learning environment for students that supports diversity of thoughts, perspectives and experiences, and honors identities (including race, gender, class, sexuality, religion, ability, socioeconomic class, age, nationality, etc.). Conditions necessary for students to succeed, could be impacted by pandemics, economics, health concerns, or unexpected life events. The student will be given assistance to meet the course's learning objectives. This demonstrates commitment to the student and Sul Ross State University's mission to create an inclusive environment and the whole student. Experiences outside of class may impact class performance and resources are available to the student for dealing with them.