

GEOLOGY 4401 - SEDIMENTARY PETROLOGY LAB

Fall 2022

Department of Biology, Geology and Physical Sciences

Sul Ross State University

MonWedFri 9:00-9:50 Lab Wed 2-5

Dr. Elizabeth Measuresmeasures@sulross.edu

837-8117; office WSB 315

Main office WSB 216; mail drop box

Main office phone 837-8112

OFFICE HOURS

Mon 2 pm to 4 pm

Tues Thrs 11 am to noon

Thrs Fri 3 pm to 5 pm

or by appointment; call or email to arrange

weekly schedule is posted on office door

LAB INSTRUCTOR Sara Grannis**COURSE DESCRIPTION**

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

PRE-REQUISITES/CO-REQUISITES

Optical Mineralogy (GEOL 2405) and Stratigraphy and Sedimentation (GEOL 3408)

METHODS OF INSTRUCTION

The lab consists of three hours (minimum) of hands-on work.

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

TEXT

Sedimentary Petrology, 3rd ed, 2001, by Maurice Tucker, **ISBN:** 0-632-05735-1.

No lab text. Other readings from books and journals may be assigned to supplement the text and will be assigned as the material is covered.

REFERENCE MATERIALS

Other books to be used for reference will be available in the lab. Handouts will be provided in lab. There is no lab book.

MATERIALS

Notebook/paper

pencils

hand lens

CLASS ATTENDANCE AND CONDUCT POLICY

You are expected and required to be on time to lab, attend each lab and to stay throughout the entire designated lab period.

Tardiness, leaving during class, or leaving class early are not acceptable except for serious, legitimate reasons (illness, appointments with specialists, family emergency, caregiver, emergency responder for example). Legitimacy will be determined by instructor. Keep instructor informed either before anticipated absence or after absences.

Schedule routine medical/dental appointments around lab times.

You are expected to be engaged and on task. Do not work on another class during this class.

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.

Missed labs must be done prior to the next lab period. Points will be deducted for late work.

Late assignments will not be accepted once graded papers are returned.

You are expected to observe the University's Code of Student Conduct (see the Student Handbook).

You may be asked to leave if you are disruptive or not observing the stated policy.

ELECTRONICS POLICY

Smart phone, cell phone, i-pod, laptop (etc.) usage is prohibited and are to be turned off during lab except if used for the purposes of lab.

Texting, checking email, playing games, surfing the internet, working on another class during lab time are not acceptable.

Multitasking does not work.

Points will be deducted from labs for violation of this policy.

If electronics are accessed during a lab practical then the exam will receive a grade of zero.

FIELD TRIP(S)

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

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 Rebecca Greathouse-Wren, LPC-S, SRSU's Accessibility Services Coordinator at 432-837-8203 (leave a message and they will get back to you as soon as possible during working hours), or email rebecca.wren@sulross.edu. The office is located on the first floor of Ferguson Hall, Suite 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 EXAMINATIONS

The semester grade:

30% from lab practicals, two

10% from weekly quizzes and lab department, up to eleven

10% from field exercise(s), one or two

50% from weekly lab assignments, eleven

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 grade for the entire course. It will only count 30% toward the total final course grade.

SCHEDULE IS TENTATIVE AND SUBJECT TO CHANGE

WEDNESDAY	
Aug 24	No lab
Aug 31	Sediment
Sept 7	Clastics 1 - Coarse Grained
Sept 14	Clastics 2 - Medium Grained
Sept 21	Clastics 3 - Medium Grained
Sept 28	Clastics 4 - Medium Grained Clastics 5 - Fine Grained
Oct 5	Lab Practical 1
Oct 12	Carbonates 1
Oct 19	Carbonates 2
Oct 26	Carbonates 3
Nov 2	Carbonates 4
Nov 9	Miscellaneous Sedimentary Rocks 1
Nov 16	Miscellaneous Sedimentary Rocks 2
Nov 24	Thanksgiving Holiday No Class
Nov 30	Lab Practical 2

GEOLOGY UNDERGRADUATE (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 STUDENT LEARNING/COURSE OBJECTIVES/OUTCOMES:

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

1. Identify, describe and apply the basic classification schemes for discrimination of the sedimentary rock types, in hand sample and thin section, of clastics, carbonates, coals, cherts, evaporites and volcanoclastics through lab assignments, and lecture and lab exams. (SLO 2)
2. Demonstrate ability to interpret and explain mechanisms and modes of transportation, deposition and environment from examination of a sedimentary rock, in hand sample and thin section, through lab assignments, and lecture and lab exams. (SLO 2)
3. Demonstrate ability to correctly and safely use basic geologic lab equipment (handlens, stereomicroscope and petrographic microscope) for examination, description and interpretation of sedimentary rocks through lab assignments and exams. (SLO 2)
4. Integrate different lithologies into a facies model and use this model and stratigraphic relationships to interpret the depositional history of a region through lab assignments, and lecture and lab exams. (SLO 1 and SLO 2 and SLO 4)
5. Identify and explain the the products and processes of diagenesis through lab assignments, and lecture and lab exams. (SLO 2)
6. 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:

1. The student will be able to conduct field work.
2. The student will be able to use field equipment.
3. The student will be able to use lab equipment.
4. The student will be able to use library resources.
5. 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. 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.

CLASSROOM CLIMATE OF RESPECT

This class should foster free expression, critical investigation, and open discussion of ideas. All people 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 should be 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.). It is understood that COVID, economic disparity, and health concerns, or even unexpected life events could impact conditions necessary for students to succeed. The student will be given assistance to meet the course's learning objectives. This demonstrates commitment to the student and the mission of Sul Ross State University to create an inclusive environment and the whole student as part of the Sul Ross Familia. Class performance can be impacted by experiences outside of class and resources are available to the student for dealing with them.