

GEOLOGY 4401 - SEDIMENTARY PETROLOGY LAB

Fall 2019

Department of Biology, Geology and Physical Sciences

Sul Ross State University

MonWedFri 9:00-9:50 Lab Alpine Wed 2-5; Midland TBA

Dr. Elizabeth Measuresmeasures@sulross.edu

837-81117; main office 837-81112

WSB 315 office

WSB 216 mail box drop

OFFICE HOURS

MTWTrF 10 – 11 am

MonThr 1:30 – 3 pm

or by appointment

LAB INSTRUCTOR Alpine: Archie Mills

Midland: Joan Galowski

COURSE DESCRIPTION

Laboratory work consists of examination of hand samples and thin sections of 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.

Possible day-long field trips, at least one is required.

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.

REFERENCE MATERIALS

Other books to be used for reference will be available in the lab. Handouts will be provided in lab or posted on Blackboard for lecture. There is no lab book. Review material will be posted on Blackboard.

MATERIALS

Notebook/paper

pens & 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). Legitimacy will be determined by instructor. Keep instructor informed either before 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 during lab.
 Smart phones, cell phones, i-pods, laptops (etc.) are to be turned OFF.
 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 test then the test will receive a grade of zero.

FIELD TRIP(S)

At least one required, day-long field trip and field exercise. Scheduled after midterm.

DISABILITIES ACCOMMODATION

ADA (Americans with Disabilities Act) Sul Ross State University is committed to equal access in compliance with the Americans with Disabilities Act of 1973. It is the student's responsibility to initiate a request for accessibility services. Students seeking accessibility services must contact Mary Schwartz-Grisham, M. Ed., LPC., in Counseling and Accessibility Services, Ferguson Hall, Room 112. The mailing address is P.O. Box C-122, Sul Ross State University, Alpine, Texas. Telephone: 432-837-8203. E-mail: mschwartz@sulross.edu .

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
 10% from field exercise
 50% from weekly lab assignments

Incomplete (I) grades for the course are given where passing work has been done and only a minor part of the requirements are incomplete.

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	

SCHEDULE IS TENTATIVE AND SUBJECT TO CHANGE

WEDNESDAY	
Aug 28	No lab
Sept 4	Sediment
Sept 11	Clastics 1
Sept 18	Clastics 2
Sept 25	Clastics 3
Oct 2	Clastics 4
Oct 9	Lab Practical 1
Oct 16	Carbonates 1
Oct 23	Carbonates 2
Oct 30	Carbonates 3
Nov 6	Carbonates 4
Nov 13	Miscellaneous Sedimentary Rocks 1
Nov 20	Miscellaneous Sedimentary Rocks 2
Nov 27	Thanksgiving Holiday No Class
Dec 3	Lab Practical 2

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 LEARNING OBJECTIVES/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.