GEOLOGY OF THE WESTERN NATIONAL PARKS
Geology 3305
Spring 2024
Geology Program
Natural Sciences Department
Agriculture, Life, and Physical Sciences College
Sul Ross State University
Mon Wed 8 to 9:15

Dr. E Measures
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Main office phone 837-8112

Office Hours
MWF 8:30 am – 10:00 am
TuThr 2:30 pm – 4:00 pm
or by appointment;
call or email to arrange

COURSE INFORMATION

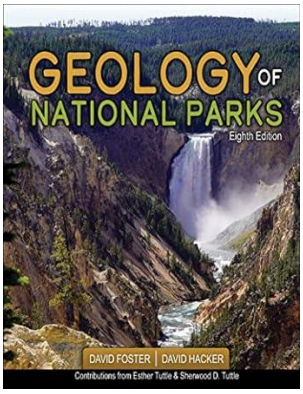
Course Description
This course is a survey of the geology of the National Parks of the western United States. Some National Monuments and state parks are also covered. Emphasis is placed on stratigraphy, paleogeography, and paleoenvironments. National Park geology is used to interpret the development of the western margin of North America. [2023-2024 Sul Ross Catalog]

The course discusses the development of the western North American continent through the geology preserved in the U.S. National Parks. It is designed for those students with introductory class work in geology. Topics to be covered include: A history of the National Park system; the igneous foundations of the continent; Precambrian life and oceans and the formation of the western edge of the continent; the Early Paleozoic stable margin and primitive ocean life; Middle and Late Paleozoic disturbances of the margin and more advanced ocean life; Mesozoic mountain building and continental deposition and terrestrial plants and animals; Cenozoic sculpting of the land by volcanic eruptions and glaciers, and the appearance of mammals.

Course Learning Objectives
At the end of the semester, the successful student will be expected to apply critical reasoning and problem-solving skills to:
* Interpret the mode of formation or environment of deposition for the three different types of rocks. (*SLO 1, 3, and 4*)
* Describe the major geologic events in the creation of the western U.S. (*SLO 1, 3, and 4*)
* Interpret the geology in each National Park. (*SLO 1, 3, and 4*)
* Identify the organisms present during the major subdivisions of geologic time. (*SLO 1*)
* Interpret the structural/environmental events responsible for the creation of the present geologic exposures in each National Park. (*SLO 1, 3, and 4*)

Course Prerequisites/Co-requisites
Physical Geology GEOL 1304

Course Required Text
Geology of National Parks, 8th ed., D. Foster, D. Hacker (eds)
ISBN 978-1-7924-8150-5



Course Materials
pencils notebook/paper
access to computer/laptop access to printer/scanner
using a smart phone for class is highly discouraged

Course Delivery/Methods of Instruction
The course consists of two face-to-face lectures (1.25 hrs each) a week.
This course is NOT an on-line, web-based, or asynchronous course.
Blackboard will be utilized to some extent.
Optional field trips, either half-day or full day, might be offered.

COURSE POLICIES

Attendance/Conduct Policy

Attendance is expected in lectures since the exams are mostly based on classroom material. You are expected to be on time to class, and to be there for the entire class period. Leaving lecture early is not acceptable. Leaving and returning to the classroom is not acceptable. If you are tardy or must leave early, **communicate** the circumstances to the instructor ASAP. You are expected to make arrangements with the instructor ***before*** explained absences and as soon as possible after absences caused by ***emergencies or illness***.
Please inform the instructor if you are an emergency responder or caregiver since this may impact attendance.
You can be dropped for having 9 hours of absences (6 class periods).
You are expected to be interested and engaged in the class. Do not work on another class during lecture time.
You are expected to observe the University's Code of Student Conduct (see the SR Student Handbook).

Electronics Policy

Smart phone, cell phone, i-pod, earbud, laptop (etc.) usage is prohibited during lecture. Smart phones, cell phones, i-pods, laptops (etc.) are to be turned OFF and put away so they are not accessible. Checking incoming texts or calls is not acceptable. If you need to be excluded from any of this electronics policy, send an email to the instructor stating the reason(s) why you need access to these electronics during class.
Policy exception: electronics may be used for the express purpose of recording or taking notes or for taking images of displayed lecture notes. DO NOT post any class recordings on any social media/web site.
Since this is a distance education course, use of smart phones to access Blackboard or the lectures is highly discouraged. Laptops or desktop computers are the best and most reliable way to do this course.

Distance Education Policy 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 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 must maintain appropriate equipment, software, and connectivity according to needs and requirements of the course, as outlined on the SRSU website.
The procedures for filing a student complaint are included in the student handbook.

Disabilities Accommodation Policy - ADA (Americans with Disabilities Act) Statement

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 Schwartze 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 mschwartze@sulross.edu or contact Alejandra Valdez, at 830-758-5006 or email alejandra.valdez@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

These are the requirements for successful completion/passing grade

exams (up to 3)	60%
homework (up to 12)	10%
term paper	12%
presentation	12%
other	6%

Grades will follow the standard scoring:

100% to 90%	A – Excellent
89.9% to 80%	B – Good
79.9% to 70%	C – Average
69.9% to 60%	D – Poor
(D is not passing for Geology majors)	
59.9% and lower	F – Failing

Any curving, or dropping of grades, will be done after the last exam and only if needed by a majority of the class.

Exams – closed notes/books; no electronics; no take-home exams
Homework – consists of questions keyed to the text, other articles/readings and web sites
Paper – 8 to 10 pages, excluding references
Presentation – a PowerPoint presentation covering geologic aspects of one of the National Parks
Other – credit for asking questions, contributing to class discussion, modeling expected behavior

Tentative schedule – subject to change

Tuesday		**Thursday**	
		Jan 18	Intro & Geologic Time
Jan 23	Geologic Principles (p. xix – xl)	Jan 25	History of NP evolution (p. xi – xiv)
Jan 30	History of NP evolution	Feb 1	Precambrian (C 2, 9, 17, 31, 32, 50, 51, 52, 53, 54)
Feb 6	Precambrian (C 2, 9, 17, 31, 32, 50, 51, 52, 53, 54)	Feb 8	Paleozoic (C 2, 3, 5, 6, 7, 22, 23, 35, 51, 52, 54, 59)
Feb 13	Paleozoic (C 2, 9, 17, 31, 32, 50, 51, 52, 53, 54)	Feb 15	Paleozoic (C 2, 9, 17, 31, 32, 50, 51, 52, 53, 54)
Feb 20	Paleozoic (C 2, 9, 17, 31, 32, 50, 51, 52, 53, 54)	Feb 22	Paleozoic (C 2, 9, 17, 31, 32, 50, 51, 52, 53, 54)
Feb 27	**Exam 1**	Feb 29	Mesozoic (C 2, 3, 4, 5, 6, 7, 9, 13, 34, 35, 51, 53, 54, 55, 59)
Mar 5	Mesozoic (C 2, 3, 4, 5, 6, 7, 9, 13, 34, 35, 51, 53, 54, 55, 59)	Mar 7	Mesozoic (C 2, 3, 4, 5, 6, 7, 9, 13, 34, 35, 51, 53, 54, 55, 59)
Mar 12 – Mar 14	**SPRING BREAK**		
Mar 19	Mesozoic (C 2, 3, 4, 5, 6, 7, 9, 13, 34, 35, 51, 53, 54, 55, 59)	Mar 21	Mesozoic (C 2, 3, 4, 5, 6, 7, 9, 13, 34, 35, 51, 53, 54, 55, 59)
Mar 26	Mesozoic (C 2, 3, 4, 5, 6, 7, 9, 13, 34, 35, 51, 53, 54, 55, 59)	Mar 28	Mesozoic (C 2, 3, 4, 5, 6, 7, 9, 13, 34, 35, 51, 53, 54, 55, 59)
Apr 2	**Exam 2**	Apr 4	Cenozoic (C 4, 9, 36, 41, 42, 43, 49, 50, 53, 59)
Apr 9	Cenozoic (C 4, 9, 36, 41, 42, 43, 49, 50, 53, 59)	Apr 11	Cenozoic (C 4, 9, 36, 41, 42, 43, 49, 50, 53, 59)
Apr 16	Cenozoic (C 4, 9, 36, 41, 42, 43, 49, 50, 53, 59)	Apr 18	Cenozoic (C 4, 9, 36, 41, 42, 43, 49, 50, 53, 59)
Apr 23	Cenozoic (C 4, 9, 36, 41, 42, 43, 49, 50, 53, 59)	Apr 25	Cenozoic (C 4, 9, 36, 41, 42, 43, 49, 50, 53, 59)
Apr 30	Presentations	May 2	DEAD DAY
Exam 3	WEDNESDAY May 8 - 8 am to 10 am		

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.

GEOLOGY UNDERGRADUATE (BACHELOR OF SCIENCE) STUDENT MARKETABLE SKILLS:

1. The student will be able to conduct fieldwork.
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 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 LoboID and password. Librarians are a tremendous resource for coursework and can be reached in person, 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.
Violations of academic integrity can result in failing assignments, failing a class, and/or more serious university consequences. These behaviors also erode the value of college degrees and higher education overall.

Use of AI is considered to be academic dishonesty in this course. Use of AI will result in a final grade of "F" in this course.

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.