

GEOLOGY OF THE WESTERN NATIONAL PARKS

Geology 3305

Fall 2021

Dept of Biology, Geology and Physical Sciences; Sul Ross State University
Mon Wed 6 to 7:15

Dr. E Measures

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Office Hours

Mon 2 pm to 4 pm
 Tues 11 am to 12:30 pm
 Thrs 9:30 am to 11 am & 3 pm to 5 pm
 Fri 3 pm to 5 pm
 or by appointment; call or email to arrange

Course Information

Description

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 with introductory class work in geology. Topics to be covered include: A history of the National Park system; the igneous foundations of the continent; early life (Precambrian) and oceans and the formation of the western edge of the continent; the stable margin (Early Paleozoic) and primitive ocean life; disturbances of the margin (Middle and Late Paleozoic) and more advanced ocean life; mountain building and continental deposition (Mesozoic) and terrestrial animals (dinosaurs); sculpting of the land by volcanic eruptions and glaciers, and the appearance of mammals (Cenozoic).

Prerequisites/Co-requisites

Physical Geology GEOL 1304 is recommended.

Text

Geology of National Parks, 7th ed., D. Hacker, D. Foster, A.G. Harris (eds)
 ISBN 978-1-7924-1996-6

Delivery/Methods of Instruction

The course consists of two lectures (1.25 hrs each) a week.
 Blackboard will be utilized.

Attendance

Attendance is expected in lectures since the exams are mostly based on class room material. You are expected to be on time to class, interested and engaged in the class, and to be there for the entire class period. Leaving the classroom for anything other than illness or emergency is not acceptable. Cell phone/ipod usage during class time is NOT ALLOWED. You can be dropped for having 9 hours of absences (6 class periods). You are expected to make arrangements with the instructor **before** explained absences and as soon as possible after absences caused by **emergencies**.

Electronics Policy

Smart phone, cell phone, i-pod, laptop (etc.) usage is prohibited during lecture. Smart phones, cell phones, i-pods, laptops (etc.) are to be turned OFF. 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.

Electronics policy exception: electronics may be used for the express purpose of recording or taking notes. DO NOT post any class recordings on any social media/web site.

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 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

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

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 and lower does not count for
59.9% and lower	F – Failing	Geology majors)

These are the requirements for successful completion/passing grade

{ Tests (up to 3)	66%
{ Homework (up to 10)	10%
{ Term Paper	12%
{ Park Presentation	12%

Tests – closed notes/books; no electronics

Homework – consists of questions keyed to the text, other articles/readings and web sites

Term Paper – up to 10 pages, excluding references

Park Presentation – a Powerpoint presentation covering geologic aspects of one of the National Parks

Course Schedule

Tentative schedule – subject to change

Monday		Wednesday	
Aug 23	Intro	Aug 25	History of NP evolution
Aug 30	Precambrian	Sept 1	Precambrian
Sept 6	HOLIDAY no class	Sept 8	Paleozoic
Sept 13	Paleozoic	Sept 15	Paleozoic
Sept 20	Paleozoic	Sept 22	Paleozoic
Sept 27	Paleozoic	Sept 29	Exam 1
Oct 4	Mesozoic	Oct 6	Mesozoic
Oct 11	Mesozoic	Oct 13	Mesozoic
Oct 18	Mesozoic	Oct 20	Mesozoic
Oct 25	Mesozoic	Oct 27	Exam 2
Nov 1	Cenozoic	Nov 3	Cenozoic
Nov 8	Cenozoic	Nov 10	Cenozoic
Nov 15	Cenozoic	Nov 17	Cenozoic
Nov 22	Cenozoic	Nov 24	HOLIDAY no class
Nov 29	Presentations	Dec 1	Presentations
Exam 3 FRIDAY DEC 3 - 6 to 8 OR TUESDAY Dec 7 - 6 to 8			

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 Course Learning Objectives

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

- * identify the three different types of rocks and interpret their mode of formation or environment of deposition (SLO 1 and 3 and 4).
- * describe the major geologic events in the creation of the western U.S. (SLO 1 and 3 and 4).
- * interpret the geology in each National Park (SLO 1 and 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 and 3 and 4).

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 (rsulibrary@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.