

GEOL 5320 – Advanced Paleontology

Fall - 2023

Lecture Times: Tr: 9:30-10:45 am
Room: WSB 210
Instructor: Dr. Tom Shiller
Office: WSB 319

Office Hours: MWF, 11-12:00 pm;
Tuesday, 11-2:00 pm; or by appointment
e-mail: thomas.shiller@sulross.edu

Course Purpose:

This course will focus on advanced topics related to plant and animal life in Earth's history. Topics to be discussed include evolution, systematics, taphonomy, and paleoecology. Students will study skeletal material from extinct and extant flora and fauna, learn to prepare fossil bone, observe taphonomic processes, and collect fossils in the field.

Student Learning Objectives: Each student will demonstrate the ability to:

- * identify plant and animal fossils to correct Class
Geology SLO 1 to demonstrate ability to identify and compare/contrast Earth history and materials
- * identify diagnostic morphology of plants and animals
Geology SLO 1 to demonstrate ability to identify and compare/contrast Earth history and materials
- * interpret paleoenvironment indicated by an assemblage of fossils
Geology SLO 1 to demonstrate ability to identify and compare/contrast Earth history and materials
- * interpret approximate geologic age of an assemblage of fossils
Geology SLO 4 to demonstrate ability to identify and apply body of information to stratigraphy
- * show use of fossils to determine stratigraphic relationships between rock units
Geology SLO 4 to demonstrate ability to identify and apply body of information to stratigraphy
- * explain how fossils help to explain extinction and evolution
Geology SLO 1 to demonstrate ability to identify and synthesize and apply body of information to Earth history

Exams: There will be four total exams covering sections discussed following the previous exam. These exams will comprise primarily short answer and essay questions. You may not use your notes for exams. Special arrangements will need to be made for make-up exams. Exams will be curved at the professor's discretion.

Presentations: Students will be assigned a topic and/or scientific papers to review and present to the class. Each presentation should be 10-15 minutes long and will summarize the topic assigned. Students will be graded on their comprehension of the topic, the effectiveness of the presentation, and the quality of the presentation's content.

Quizzes: There will be six pop quizzes during the semester. Each quiz will comprise 3-4 questions related to material covered in the previous lecture. Quizzes will be closed-notes and will take 10-15 minutes to complete.

Field Trip Report: Students will be required to write a short report following a weekend field trip.

Points:

4 Exams = 40% (10% each)
6 Quizzes = 30% (5% each)
4 Presentations = 20% (5% each)
Field Trip Report = 10%

Your accumulated grades will be recorded on Blackboard in the Grade Center.

Letter Grading: Final course grade will be based on a percentage of the total points as follows:

90.00-100% = A
80.00-89.90% = B
70.00-79.90% = C

60.00-69.90% = D
Less than 60.00% = F

Attendance and Make-up Policy:

The only acceptable excuses for missing class are those due to illness, approved Sul Ross sanctioned events, and observation of religious holidays. All excused absences **must** be documented on paper. Please inform the professor at least 1 week prior to missing class (e-mail, note on office door, etc....). With an appropriate excuse, you must make up missed quizzes/exams **within 10 days** of the last day of the absence or you have failed to meet your course responsibilities and will receive a zero.

University policy dictates that your instructor can drop you with an F from the course after 6 absences from TR classes or after 9 absences from MWF classes.

Classroom Conduct:

The Student handbook states under Student Misconduct, number 21, "Such prohibition includes disorderly classroom conduct that obstructs, interferes with, inhibits and/or disrupts teaching and/or classroom activities." Behavior which is included in this category: 1) persistent talking to ones' neighbors during lecture, 2) coming to class late or leaving early, 3) the use of cellular phones or MP3 devices in the classroom. **CELL PHONES MUST BE TURNED OFF IN CLASS.** This includes texting, emailing and social networking. *(If you are a member of an EMS/VFD group or have a child in day care and they must be able to reach you, let me know and we will discuss.)* Offenders of this policy will be asked once to stop and 5 points will be taken from their grade. If it occurs a second time, the offender will be instructed to leave the classroom, and there will be a meeting with the Dean of Student Life. If there are further incidents, UDPS will be called and offenders will be physically ejected from the classroom and will likely be expelled from the University.

CHEATING AND PLAGIARISM WILL NOT BE TOLERATED:

Any student caught cheating on an exam or quiz will receive an automatic **zero** on that assignment. If a student is caught cheating second time, additional disciplinary actions will be taken. Any student plagiarizing information on an assignment will receive an automatic zero for that assignment.

Students Needing Special Accommodations:

SRSU Accessibility Services. 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. Students seeking accessibility/accommodations services must contact Mrs. Mary Schwartz Grisham, LPC, SRSU's Accessibility Services Director at 432-837-8203 or email mschwartz@sulross.edu. Our office is located on the first floor of Ferguson Hall, room 112, and our mailing address is P.O. Box C122, Sul Ross State University, Alpine, Texas, 79832.

Lecture Schedule for the Fall 2023 Semester:

This calendar is subject to change with prior notice, at the instructor's discretion.

Week	Lecture Topics
1	Intro, Geologic Time Scale
2	Fossil Preservation, Nature of the Fossil Record
3	Evolution, Species, and Natural Selection
4	Mutation, Isolation, and Adaptation; Exam 1
5	Taxonomy and Phylogenetics,
6	Functional Morphology, Paleoecology
7	Invertebrate Anatomy, Major Invertebrate Groups

8	Invertebrate Evolution
9	Techniques in Invertebrate Paleontology, Exam 2
10	Vertebrate Anatomy, Major Vertebrate Groups
11	Vertebrate Evolution
12	Techniques in Vertebrate Paleontology, Exam 3
13	Paleobotany
14	Biostratigraphy, Biogeography
15	Sea Level, Climate, and Plate Tectonics, Final Exam (12/11, 8-10:00 am)