

Introduction to Geologic Field Geology—Spring, 2024

Lecture: TBA

Instructor: Dr. Tom Shiller

Office: WSB 319

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Office Hours: Tuesday and Thursday, 9-11:00 am; Wednesday, 1-3:00 pm; or by appointment

Course Description: This purpose of this course is to prepare upper level geology students for rigorous field work during summer field camp. Students will have four mapping projects in Big Bend region through which they will learn and practice fundamental techniques in geologic field work: using a Brunton compass, mapping surface geology, and constructing geologic cross sections.

Required Materials: Sturdy hiking boots, loose-fitting clothes suited for field work, a wide-brimmed hat, water containers, clipboard, map pencils, protractor.

General Objectives: Each student will develop:

1. Knowledge of field techniques used in the geological sciences
2. Knowledge of proper conduct in the field
3. Practical skills in wilderness first aid and survival
4. Knowledge of reporting observations made in the field
5. Skills in processing data collected in the field

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

1. Identify rocks and geologic features in the field
2. Measure geologic structures using a Brunton compass
3. Construct detailed geologic maps
4. Measure stratigraphic sections
5. Measure and calculate paleocurrent directions

Learning Outcome: Students will have an understanding of geologic field methods and will well prepared for summer field camp.

Grades: Students will be required to construct geologic maps and cross sections for mapping areas. Maps and cross sections will be assessed based on the correct placement of formation contacts, geologic structures, and based on the quality of the product. There will be a final exam at the end of the semester comprising 20% of the total grade.

4 Geologic Maps—15% each (60% total grade)

4 Cross Sections—5% for each (20% total grade)

Final Exam—20% (20% total grade)

Attendance: Attendance in lecture is expected and will not be counted toward the final grade. Attendance of field trips, is required.

Plagiarism and Cheating: Plagiarism and cheating will not be tolerated. Anyone caught copying the work of others will receive an automatic zero on the assignment or exam. A second occurrence will warrant expulsion from the course.

Students with Disabilities: Any student who because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible to make necessary arrangements. If an accommodation is needed, students must present their accommodation letter, obtained from Accessibility Services, as soon as possible. Please note that instructors are not permitted to provide classroom accommodations to a student until the appropriate verification has been received. Accessibility Services is in Ferguson Hall room 112. You can make an appointment by calling Mary Schwartze Grisham at 432 837-8203.

Class Schedule: Note: dates and topics may be subject to change during the semester.

Dates	Topics
2/3	Regional Volcanics Mapping
2/24-25	Dawson Creek and Rough Run Creek Mapping Projects
4/26-28	Mariscal Mapping Project and Structural Analysis

Geology BS marketable skills:

1. Student will be able to conduct field work.
2. Student will be able to use field equipment.
3. Student will be able to use lab equipment.
4. Student will be able to use library resources.
5. Student will be able to communicate in written and oral format.

Geology BS 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.