

Southern Utah University
Field Geology, Geo 4960-01
Summer 2024

May 20-June 21, Monday-Friday (all day)

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COURSE DESCRIPTION:

A five-week intensive course in geologic mapping and field investigation.

COURSE OBJECTIVES:

- Use field skills and geologic principles to collect relevant field data
- Produce maps and cross-sections based on collected field data
- Interpretation of geologic features and data
- Analysis of tectonic and sedimentary history based on geologic interpretations

PREREQUISITES: A grade of C or better in Sedimentology & Stratigraphy (GEO 3410/3415) and Structural Geology (GEO 3510/3515), and advanced standing in program.

TEXT: No textbook required.

PROGRAM OF STUDY:

Field Geology (GEO 4960), is a six-credit course (semester system) structured to teach students the hands-on mechanics of field work and the preparation of geologic maps, cross sections and reports. This is an advanced-level course designed for students who have completed undergraduate geology studies and are able to proceed into advanced mapping, analysis and interpretation of geologically complex terrains.

Experience is gained by preparing maps using aerial photos, topographic maps, transit compasses, survey equipment, and GPS methodologies. Honing observational and interpretive skills are stressed. Exercises include work in sedimentary, igneous, and metamorphic and mineralized terrains, many of which are structurally complex, as well as aspects of environmental geology and geomorphology in geologic interpretation. Stratigraphic and structural studies are combined in the form of 1-5 day map problems using topographic base maps, GPS, and air photos. In addition to making geologic maps, you will construct cross sections, plot structural data and write geological reports on selected areas.

****A workday usually starts when the vans pull out at 7:30 or 8 a.m. and ends back at the university or campground about 5 p.m. Monday through Thursday. Fridays are used as an office day to complete final maps, cross-sections, and reports. The start and end times may vary with the weather. You will be informed of any changes. Weekends are free to explore the spectacular geology, culture, and scenery of the southwestern Utah area.**

TENTATIVE COURSE SCHEDULE (be prepared for modifications):

Week 1: Red Hill - based out of Cedar City/SUU

Week 2: First Left Hand Canyon/Geomorphology and Flooding - based out of Cedar City/SUU

Week 3: Bryce Canyon National Park area - **Camping** at the Pine Lake Campground

Week 4: Great Basin National Park area - **Camping** at a Park Service campground

Week 5: Parowan Gap - based out of Cedar City/SUU

GENERAL COMMENTS:

First Day: We will meet in room GEO 205 at 8 am on the first day of class. We will have a short course introduction and then begin a project. Be prepared for field work on the first day!

Private cars: Private cars may not be used in the field. We will provide transportation.

Camping: We will be camping some nights of field camp. You will need to bring your own camping equipment. A list of suggested gear can be found below.

Health and Accident Insurance: All field trip participants are required to have some sort of health and accident insurance, which will cover them for the duration of the trip. You are not covered by the University during non-classroom hours. Bring the policy information.

Smoking: The SUU vans and dorms are non-smoking areas.

Liquor: Possession of or consumption of alcoholic beverages, including beer, is prohibited in the field, in SUU vans, and in SUU dorms.

<http://www.suu.edu/pub/policies/pdf/PP537University.pdf>

Drugs: No recreational drugs. <http://suu.edu/pub/policies/pdf/PP59DrugFree.pdf>

Pets: No pets of any kind in the dorm or in the field.

Guests: Visits by family and friends are welcome on the weekends. No one may have a “visitor” during class time.

Field partners: The majority of projects involve working in groups, both for physical security in the event of an injury and because much of the work involves cooperation of at least two people. Field groups will be assigned each week to allow you to develop collaborative skills.

Daily expectations: You are expected to effectively use your time each day. This means working in the field until the time outlined for arriving back at the vans. You are expected to move and work at a pace that is effective for your group. You are expected to find ways to contribute to your group. Don't expect other members to collect all of your data for you.

Recreation: Southern Utah University is located in the heart of one of the world's most varied geological areas. The campus is situated at the western edge of the Colorado Plateau and the eastern edge of the Basin and Range province. The base location is a beautiful, modern university campus only 64 miles from Zion National Park, 76 miles from Bryce Canyon National Park, and 22 miles from Cedar Breaks National Monument. It is within easy driving distance of Grand Canyon, Canyonlands, Arches, Capitol Reef and Great Basin National Parks, Glen Canyon National Recreation Area, and Las Vegas.

EQUIPMENT:

Field Dress Code - close toed shoes or boots are required. All students will preferably wear boots that support the ankle and appropriate clothing for weather and possible hazards (long pants are strongly recommended while in the field); there will be considerable walking over uneven terrain through desert and mountain vegetation. Also essential is an easily carried rain suit or poncho, and some type of hat. Beyond these, bring clothes suitable for fieldwork.

Personal Supplies and Equipment: STUDENTS ARE RESPONSIBLE FOR THEIR OWN MEALS THROUGHOUT THE ENTIRE FIELD CAMP. Each participant must supply the following articles of field equipment.

EQUIPMENT GUIDE

Field Dress Code - all students must wear boots that support the ankle and appropriate clothing (long pants are recommended while in the field). Also essential is an easily carried rain suit or poncho, and some type of hat. Beyond these, bring clothes suitable for fieldwork.

Minimal Day Gear (personal gear supplied by each student)

General Gear	Clothing and Sun Protection	Geology Gear
Day pack	Hiking boots	Field notebook(s)
2 liters of water	Hat	Hand lens
Lunch/snacks	Rain gear	Rock hammer
Pencils	Sunscreen, chapstick, etc.	Pencils

Minimal Camping Gear (personal gear supplied by student)

Camping	Cooking	Toiletries
Tent (you can share)	FOOD	Towel
Sleeping pad	Small cooking pots or pans	Personal hygiene supplies
Sleeping bag	Eating utensils	Insect repellent (recommended)
Warm clothes	Cook stove (if you have one)	
Flashlight or head lamp	Dish soap, sponge, etc.	

Shared Gear, Provided by SUU (students can also bring personal gear)

Geology Gear	Camp Supplies
Maps and aerial photos	Toilet paper
Brunton Pocket Transit	Assorted cooking utensils and camp stoves
Clipboards/Map boards	Portable toilets
Acid bottle	First aid kit
Field methods handbook	Water jugs
Ink pens, straight edges (for mapping)	Limited cooler space
Portable radios	
Jacob's Staff	

GRADING: The first four weeks are worth 17.5% of your final grade while the last week is worth 30%. Students MUST complete all five weeks for a passing grade.

Assignments will be due each week by Friday at 2 or 3pm. Due dates are subject to change.

-- Letter Grade Scale:

100-93% = A, 92-90% = A-, 89-87% = B+, 86-83% = B, 82-80% = B-, 79-77% = C+,
76-73% = C, 72-70 = C-, 69-67% = D+, 66-63% = D, 62-60% = D-, <59% = F

STUDENT LEARNING OUTCOMES:

Inquiry and Analysis: Inquiry: Students systematically explore issues, objects or works through the collection and analysis of evidence that results in informed conclusions or judgments.

Analysis: Students break complex topics or issues into parts to gain a better understanding of them.

Problem Solving: Students design, evaluate, and implement strategies to answer open-ended questions or achieve a desired goal.

Integrative Learning: Students make connections among ideas and experiences and can synthesize and transfer their learning to new, complex situations within and beyond the campus.

	Week 1	Week 2	Week 3	Week 4	Week 5
Inquiry & Analysis	X	X	X	X	X
Problem Solving	X	X	X	X	X
Integrative Learning	X	X	X	X	X

SUU Policies:

The following are general guidelines for the classroom environment:

- **Class Attendance is Required:** If you are registered for a Face-to-Face, Synchronous Remote, or Hybrid course, attendance is required. If you are ill or instructed to isolate or quarantine, you may request a faculty member record the class and share it with you or you may request other reasonable accommodations. Your instructor will work with you to develop a plan for completing coursework while you are isolated/quarantined. In order for you to receive academic accommodations and ensure that your request is communicated to faculty, you must submit this self report form.

- **Course delivery modalities are posted online for each course, but may be modified in response to emerging COVID conditions:** SUU is employing every effort to maintain a learning

environment that is engaging and safe. The course modality listed when you registered for courses should remain for the semester; however, due to COVID conditions, the delivery of modality for a specific course may change during the semester. Normally, these changes will be short term (possibly the length of a quarantine or isolation time period), or in some cases longer. When such a modification is needed, faculty members will work with their department chair and/or dean and the students to maintain an effective learning environment.

ZOOM ETIQUETTE: If your instructor utilizes the Zoom online conference system, you will need to have a way to communicate (a webcam, a microphone, a smartphone/landline, or using chat within the Zoom app). We will adopt the same rules and norms as in a physical classroom (take notes; participate by asking and answering questions; wear classroom-ready clothing). For everyone's benefit, please:

- Join the course in a quiet, distraction free location;
- Be aware of your background if you have video enabled;
- Mute your microphone or phone unless you are speaking;
- Close browser tabs and software not required for participating in class; and
- Remember that SUU classes are in the Mountain Time zone.

The success of this class will depend on the same commitment to learning we all typically bring to the physical classroom.

ACADEMIC INTEGRITY: Scholastic dishonesty will not be tolerated and will be prosecuted to the fullest extent (see SUU Policy 6.33). You are expected to have read and understood the current SUU student conduct code (SUU Policy 11.2) regarding student responsibilities and rights, the intellectual property policy (SUU Policy 5.52), information about procedures, and what constitutes acceptable behavior.

ADA STATEMENT: Students with medical, psychological, learning, or other disabilities desiring academic adjustments, accommodations, or auxiliary aids will need to contact the Disability Resource Center, located in Room 206F of the Sharwan Smith Center or by phone at (435) 865-8042. The Disability Resource Center determines eligibility for and authorizes the provision of services. If your instructor requires attendance, you may need to seek an ADA accommodation to request an exception to this attendance policy. Please contact the Disability Resource Center to determine what, if any, ADA accommodations are reasonable and appropriate.

EMERGENCY MANAGEMENT STATEMENT: In case of emergency, the University's Emergency Notification System (ENS) will be activated. Students are encouraged to maintain updated contact information using the link on the homepage of the mySUU portal. In addition, students are encouraged to familiarize themselves with the Emergency Response Protocols posted in each classroom. Detailed information about the University's emergency management plan can be found at <http://www.suu.edu/emergency>.

HEOA COMPLIANCE STATEMENT: For a full set of Higher Education Opportunity Act (HEOA) compliance statements, please visit <https://www.suu.edu/heoa>. The sharing of copyrighted material through peer-to-peer (P2P) file sharing, except as provided under U.S. copyright law, is prohibited by law; additional information can be found at

<https://my.suu.edu/help/article/1096/heoa-compliance-plan>. You are also expected to comply with policies regarding intellectual property (SUU Policy 5.52) and copyright (SUU Policy 5.54).

DISCLAIMER STATEMENT: Information contained in this syllabus, other than the grading, late assignments, makeup work, and attendance policies, may be subject to change with advance notice, as deemed appropriate by the instructor. (optional)

SUUSA STATEMENT: As a student at SUU, you have representation from the SUU Student Association (SUUSA) which advocates for student interests and helps work as a liaison between the students and the university administration. You can submit T-Bird Squawks feedback by going to <https://www.suu.edu/suusa/voice>. Likewise, you can learn more about SUUSA's Executive Council at <https://www.suu.edu/suusa/executive-council> and about all of SUUSA's Student Senators at <https://www.suu.edu/suusa/senate>.

ASSIGNMENT POLICY: It is departmental policy that students do not receive completed assignments to keep. Assignments will be returned in class for review only, and must be returned to me by the end of the class period. Grades will be held for unreturned assignments. Students may review their work at any time in my office.