Syllabus

Field Geology 2350

Instructor:

Office Room:

Emails:

Office Hours:

Class Time and Date:

Field Trips: Two Fridays to local destinations and one-weekend camping trip to the Moab area from Friday to Sunday.

Six Lab Days: Thursday 1:00 pm – 4:00 pm in SI - Science & Ind. Bldg 358- see schedule below

Required Text:

Geology Field Notebook (Geological Fabrikoid No. 540F) by Rite in the Rain

Geological Evolution of the Colorado Plateau of Eastern Utah and Western Colorado by Robert Fillmore (used copies are $20 on Amazon)

Schedule:

Lab 1: February 1 (Thursday) 1:00 - 3:50 pm.
Topic: Introductions, syllabus, assignments, and select assign topics. Discuss camping experience. Distribute water sample vials for ICP analysis.

Lab 2: February 15 (Thursday) 1:00 - 3:50 pm.
Topic: Brunton compass and strike and dip measurements. Researching, Databases, Google Scholar, Citing Sources, Report Writing Format, and Science Writing Style.

Lab 3: February 29 (Thursday) 1:00 - 3:50 pm. Topic: Field soil and/or water sampling with XRF/water quality meters and field data collection using ESRI Survey 123.

Local Field Trip Day 1 - Friday, March 22, 9 am to 5 pm: Antelope Island State Park

Lab 4: March 28 (Thursday) 1:00 - 3:50 pm. Topic: Prepare for Moab Field Trip. Plan food and travel arrangements. Graph ICP data.

Weekend – Moab Camping Trip: **April 5, 6, and 7 -** Friday depart campus at 2:00 pm, Saturday 8:00 am - 8:00 pm, and Sunday 8:00 am - 2:00 pm. Depart the Moab area at 2:00 pm and arrive at SLCC at 8 pm. Camp near Canyonlands National Park. Visit Canyonlands NP, Dead Horse Point State Park, Fisher Towers, Castle Valley, and the La Sal Mountains.

Lab 5: April 11 (Thursday) 1:00 - 3:50 pm. Topic: Work on Presentations

Local Field Trip Day 2 - Friday, April 12, 9 am to 5 pm: Stockton Bar, Stansbury Mountains (hike and geologic map making), and Stansbury Island (hike up to shoreline if no shooters in the area).

Lab 6: April 25 (Thursday) 1:00 - 3:50 pm Topic: Final Presentations

If weather prevents us from doing one of the earlier weekend trips, keep these weekends open in your calendar in case we need to reschedule.

Make-up Local Weekend: TBD
Make-up Moab Weekend: TBD

Assignments:

- **Six Lab Days:** During lab days, students will learn about the topics to be covered in the field and will work on their final writing or research project. Writing and research skills will be taught. Some labs will provide training on how to use and calibrate water quality meters, the Survey 123 App, ARC GIS mapping software, and the hand-held Nitron XL2 XRF.
- **Field Trips –** During the field days, students will document their observations, make sketches, and make interpretations of geologic phenomena in their field notebooks to be turned in at the end of the day for grading. Students will also give 10-minute oral presentations on the selected topics in the field.
- **Written Summaries of Topics** – Each student will be assigned at least two topics on our first meeting. Students will do informal research on these topics and submit a written summary before the field trip.
- **Oral Presentations of Topics in the Field** – Students will present two mini-talks, 15 minutes, on their topics in the field.
- **Final Project** – Each student have a choice of doing either a research paper or an independent research project.
    - **Research Paper**: Students choose a topic of their choice related to historical geology and a geologic topic we observed in the field. Students will write a three-page research paper on the topic.
    - **Original Research Project**: The student will work with the professor to design an original research project that involves either collecting and analyzing soil or water for heavy metals such as lead and arsenic; or computer mapping landslides with LiDAR data in the Global Mapper software.
- **Final Presentation in Lab 6** - Students will present a summary of their final project to the class in a 10-minute digital slideshow.

Grade Distribution:

Field Books	80 points (20 points for each field day)
Labs Days	60 points (10 points each for six labs)
Written Summaries	40 points (20 points for each topic)
Field Oral Presentations	40 points (20 points for each presentation)
Final Paper	100 points
Total Points	**320 points**

Grading Scale:

A - 90% to 100%

B - 80% to 89.9%

C - 70 to 79.9%

D - 60% to 69.9%

E - less than or equal to 59.9%

Make-up and Late Policy:

All assignments will be marked down for every day they are late. The amount they will be marked down is ambiguous so it is in your interest to turn them in on time. If assignments are very late, they won't be accepted. This policy is consistent with the professional work world.

Incomplete Grades:

A grade of "I" (Incomplete) is the instructor's option and is not given except only in the most extenuating of circumstances for which there is verifiable written documentation. To receive an incomplete, nearly all coursework must have been completed (e.g. ~75%) with a passing grade. **It is the responsibility of the student to drop/withdraw from this class, not the instructor.**

Attendance Policy:

Regular and prompt attendance is expected in all classes. Since this is an experiential course, attendance is required for much of the grade.

Course Description:

The course provides an introduction to geology field studies. Covers local geology, rock and mineral identification, map reading, structure recognition, and relevant geologic processes.

Student Learning Outcomes (SLOs):

- Perform field identification of rocks, minerals, fossils, faults, structures, and geomorphic landforms.
- Perform field documentation including strike and dip measurements, field notes, GPS readings, and/or make hardcopy or electronic geologic maps.
- Correlate the geologic history of the area with significant geologic events in the Western Cordillera.
- Conduct field sampling using standard operating procedures.
- Evaluate the geologic history of a field area.

Institutional Syllabus:

In addition to this syllabus, please review the helpful resources and policies in the SLCC institutional syllabus here: https://slcc.instructure.com/courses/530981/pages/institutional-syllabus. This has helpful information about grading policies, code of student conduct, Title IX Statement, ADA accommodations, incident reporting, tutoring services, writing and eportfolio help, and advising and counseling.