Field Geology I
GEOLOGY 235

Instructor: Dr. Doug Yule
Office: Live Oak Bldg., Room 1209
Office Hours: Wednesdays 1100 – 1200, or by appointment
(818) 677- 6238
Email: doug.yule@csun.edu

Teaching Assistant: Ian Desjarlais
Office: Live Oak Bldg., Room 1224
Office Hours: Wednesdays 1300-1400
Email: ian.desjarlais.328@my.csun.edu

TEXTBOOK (REQUIRED): Geology in the Field by Robert R. Compton, 1985.

SYLLABUS

The Field Geology I course is designed to teach you the basics of field geology procedures. The primary objectives of this course are for you to learn the basic techniques and skills needed to 1) make observations in the field 2) collect geologic data and 3) *interpret* field relationships. During the course, you will learn how to properly take notes and make illustrations in a geologic notebook, take measurements of planar and linear features using a Brunton compass, orient yourself in the field using a topographic base map and your compass, learn basic geologic mapping techniques, and learn how to construct a formal written field report.

INHERENT DANGERS IN FIELD COURSES

Fieldwork forms the basis for any geologic study. The purpose of this course is therefore to teach you the field procedures that may be required in your future occupation. In fieldwork of any kind there are inherent dangers of various types. A field course could not be taught in the absence of these dangers and, if it could, it would not prepare the students for the realities of their work. The following are examples of some of the dangers, small or large, that could confront you in this course: insect bites (fly, gnat, bee, tick), snake bites; poison oak infection; sunburn; development of skin cancer; fatigue that could result in heat exhaustion or hypothermia; ingestion of Giardia lamblia and development of giardiasis; cuts, abrasions, sprains, broken bones, or concussion from falling or being hit by falling rocks; being hit by lightning. Geologists, including students, in rare instances, die while doing fieldwork, although major injuries have not occurred to CSUN students. If you are afraid of any of the above, to the extent that you do not want to take this course, then you are advised to look for a different university or change your major immediately.

POLICIES

This is a challenging course for geology majors. It will require time, diligence and a significant amount of effort in order to master the material. As a rule of thumb, one unit of undergraduate course credit for an average student at an accredited university (that's CSUN!) will require 2 hours of outside study. This course is worth 2 credits; an average student (C grade) can expect to work at least 4 hours *outside of class* per week for this course. If you want to earn a B or an A in the course, then you should expect to work more hours than the minimum expectation. I expect that you will spend at least this amount of time outside of lecture reading the textbook *before* coming to class, doing the lab exercises, and reviewing/studying key concepts. I expect exemplary and punctual attendance, participation, and mental engagement in the lectures. I encourage you to take advantage of office hours and the classroom forum for discussion; I am here to help you with your learning process. **That being said, I want to emphasize that the responsibility for learning the material is ultimately yours.** Learning new material means that you have internalized and retained new concepts well enough to apply to new situations to solve geologic problems—this comes with time and effort.

Syllabus

At times through the semester, it may become necessary for me to update the syllabus to match the topics and pace that I cover the material. Therefore, future syllabi may replace this version that you have received on the first day of class. You will find the updated syllabi on the WebCT (moodle) page for this course. *It is the student's responsibility to know and follow the rules and policies that I have outlined in this syllabus. You agree to abide by these policies by accepting this syllabus and any subsequent updated syllabi.*

Email

I will occasionally send important course information via email. Check your account for important 'GEOL 235' messages. University policy states that you are responsible for course information sent via email. Your responsibility includes keeping your inbox under quota in order to receive incoming messages, understanding how to forward email to an off-campus account (if you choose to do so), understanding how to download and save files sent via email, and following instructions and due dates for assignments, announcements, or queries sent via email. *Be advised: I do not re-send or forward course email correspondence to alternate email addresses for students who cannot successfully forward their CSUN email to an off-campus account.*

Below are some guidelines for completing each homework/lab and field exercise.

1. **No late work will be accepted or graded for feedback**. I am strict about this policy. An assignment is considered 'late' whether it is turned in one minute or one hour after a deadline.

2. Each homework/lab is due at the beginning of the lab period one class period after the day they are assigned, unless otherwise designated in class or via email. **I do NOT accept or grade late homework/labs.** If you turn in an on time, but incomplete, homework/lab exercise, you will receive partial credit for the assignment. I urge you to turn in incomplete work ON TIME to avoid earning a zero for the assignment.

3. Your name must be on every page of the materials that you hand in to us, or it must be stapled (no paper clips please).

4. Strive for clear, professional work—this will help you form good habits of documentation both in the field and in the laboratory.
    a) Use a *sharp* pencil
    b) Circle your final answers
    c) Write legibly
    d) ***Label*** all parts of the diagrams or sketches that you create
    e) ***Show all your work***—I will assign partial credit if I can follow your thought process, but will be unforgiving in grading if you do not show the work that led you to a particular answer.

KEY POLICIES FOR GEOL 235 FIELD TRIPS

1. I expect all students to arrive before the scheduled field trip departure time. Arrive in time to help load your gear in vans, take care of any personal business, and be ready to depart at the scheduled time (6:30 a.m.). I have been known to leave students in the parking lot. If you are running a few minutes late, be sure to contact one of your mates to alert the group that you are on your way. If you can contact the group before the scheduled departure time, we will wait for you, but this will add time spent in the field that day. For example, if we depart 15 minutes late from campus due to a late arrival, expect to spend 30 extra minutes in the field that day.

2. I will ask for and will gladly accept help loading and unloading vehicles prior to and following trips. Efforts of those who can help will not go unnoticed.

3. We will depart camp each day at 8:00 a.m. sharp. Normal 'quitting time' is 5:00 p.m. Any reason for late departure will increase (by a factor of 2x) the length of time spent in the field. To avoid this time penalty plan to wake in time to dress, eat a healthy breakfast, pack a healthy lunch, fill water bottles. On the last morning of the field trip allow extra time to break camp and pack the vehicles.

4. I expect all students to be generally helpful during the trip; help load and unload vehicles, cook meals, and clean up after meals (we will form cooking and cleaning teams to facilitate this).

5. I may need to designate rendezvous times/places during fieldwork. I expect students to plan accordingly and try their best to arrive promptly at designated spots (not too early, not too late).

6. **No alcoholic beverages**. You read correctly. I enjoy a cold BEvERage as much as the next person, but for a number of reasons I have decided to ban alcohol from GEOL 235. You will find the time in the field to be physically, mentally, and emotionally demanding. In my experience alcohol consumption acts to decrease the learning experience for the entire group. Trust me, you will get more from your field experience sans alcoholic beverages. Anyone caught breaking this policy will have their contraband confiscated and receive zero credit for the weekend's work (but will be expected to participate fully in the weekends activities).

7. Smoking cigarettes is allowed, but PLEASE take great care to prevent brush fire, and pick up and pack out *all* cigarette butts.

8. DO not deface or unduly damage outcrops. We will be visiting sites that are heavily used to teach introductory field mapping. In some cases you will notice (name your university) grafitti. Carving 'CSUN' into the outcrop only degrades the outcrop for future classes. I am proud to say that you will notice little if any 'outcrop vandalism' readily attributable to CSUN. Let's keep it that way.

9. Any FOOD ALLERGIES or DIETARY RESTRICTIONS need to be made known to me, the instructor, at least one week prior to any overnight trip as food is communally prepared and shared.

10. Finally, I will check and grade field maps and/or field notebooks *every night* in the field prior to 10 p.m. I will be checking to see that contacts, faults, folds, and strike and dip data collected from the day have been plotted on the map. If you do not manage to complete this task while mapping you will have time in the evenings to do so.

EVALUATION DETAILS

Your grade in this course will be assessed by reviews of your geologic field notebook, field and laboratory quizzes, laboratory assignments, unannounced field quizzes, your geologic field maps, your geologic field reports, field and classroom participation (helping load and unload vehicles, field meal cooking and cleanup teams), and punctual attendance both in the field (includes field trip departure times, in-field morning departure and rendezvous times) and in the classroom.

The plus/minus letter grading system will be used for this course. I don't "grade on a curve". In the event that you have a borderline grade, I will use your attendance, class participation, and overall effort dedicated to the course as a basis for assigning you a grade. The grading scale for the graded option is as follows:

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

I do not give 'Incompletes' for grades. No exceptions.

If you choose to drop the course, it is your responsibility to formally drop the class before the first add/drop date; I will not administratively drop you from the course. Under normal circumstances, you cannot drop the course after the second week. Only with proof of a serious and compelling reason (see Schedule of Classes) will a student be allowed to drop after the second week.

MISSED CLASSES

I expect that you will attend every class unless you are seriously ill. Though attendance is not formally graded, I keep track of attendance as a means of assessing your commitment to the course. Should your grade fall on a borderline between two letter grades, we will use attendance as a deciding factor. The last few Ieks of the course will not have formal lectures, as you are expected to make regular progress on your field report. Though there are not formal lectures, your attendance is still required in the classroom so that your progress may be monitored.

As this is a course in field geology techniques, field trip attendance is crucial. **You are required to attend the in-class and weekend field trips**. Failure to do so will result in no credit for field participation. If bad weather causes cancellation of one or more field days, the missed days will be made up when the weather is good, so keep your weekend calendar open for any such occurrence.

CLASSROOM ETIQUETTE

Cell phones and pagers are an unwanted and rude distraction during the lecture. Either turn them off during class, or do not bring them to class. You may bring a laptop for the computer exercises, but you are to be working on course-related material while you are in my class. Playing games, surfing the internet and instant messaging are unprofessional distractions from your primary responsibilities: paying attention and learning the material.

Make every attempt to get to class on time. I will begin lectures promptly at the start of class; if you are late, it is your responsibility to get notes or information about assigned work from another student. If you must be late to class due to an unforeseen event, enter the room as quietly as possible so as to not disturb your fellow students. You are already familiar with the parking and traffic situations in the Los Angeles area; these are not valid excuses for tardiness.

EQUIPMENT FOR THE FIELD

Geologic Equipment

- Map board
- Binder clips/rubber bands for field notebook and map board
- Hammer
- Brunton compass (check out from Tech. Office)
- Hand lens
- Field notebook(s) (purchase in Dept. Office)
- Field map(s) (provided)
- Covered clipboard or case for field map
- Acid bottle (optional)

- Pencils – 2H, 4H (2 each)
- Ball point pens (2)
- Colored pens—red, black, blue, green fine point
- Colored pencils
- Eraser
- Safety pin, dissecting needle or hat pin (2)
- Marking pen (Sharpie)
- Protractor or Zip-A-Dip (purchase in Dept. Office)
- Ruler
- Masking tape (optional)
- Compton's GEOLOGY IN THE FIELD
- Field pouch
- Field belt

Clothing and accessories

- Long pants
- Long-sleeved shirts
- Extra socks
- Warm coat or sweater
- Boots (water proofing recommended)
- Hat (wide brim recommended)
- Work gloves (optional)
- Rainsuit or poncho
- Water bottles, **2-liter capacity minimum**
- Map case or vest with pockets
- Day pack large enough for lunch, samples, and cold/rainy weather gear

Miscellaneous items

- Toilet paper
- Sunscreen
- Camera and film
- First aid kit
- Chapstick
- Insect repellent
- Fine-tooth comb and/or tweezers (for pulling cactus spines out!)

Overnight equipment

We will be camping in a fairly primitive fashion; there will not be running water or flush toilets.

- Tent with rainfly
- Sleeping bag
- Sleeping pad
- Therma-rest/Crazy Creek camp chair
- Food and water
- Head lamp

SAFETY AND RESPONSIBILITY IN THE FIELD

- Work with a field partner
- Wear suitable field attire
- Carry rain gear, first aid, etc. in your daypack
- Drink plenty of water (plan on carrying *at least* two liters/day, more on days with temps above 85° F)
- Work at a pace suited to your fitness level, not beyond
- Exercise caution on steep slopes, especially when others are working downhill from you
- Use protective eyewear when hammering on the outcrop
- Exercise caution when hammering on the outcrop near others
- Move to lower ground during a thunderstorm; stay out of narrow dry washes

ACADEMIC DISHONESTY

Official California State University policy states: "The maintenance of academic integrity and quality education is the responsibility of each student within this university and the California State University system. Cheating or plagiarism in connection with an academic program at a campus is listed in Section 41301, Title 5, California Code of Regulations, as an offense for which a student may be expelled, suspended, or given a less severe disciplinary sanction. Academic dishonesty is an especially serious offense and diminishes the quality of scholarship and defrauds those who depend upon the integrity of the campus programs. Such dishonesty includes but is not limited to: cheating, fabrication, facilitating academic dishonesty, and plagiarism."

I do not tolerate any form of academic dishonesty. I expect that you will uphold the integrity of the academic environment here at CSUN; however, if I find evidence of academic dishonesty, I will report such evidence to the Office of the Vice President for Student Affairs and recommend disciplinary action. If you are caught cheating in my class, you will be given a failing grade for the course. This includes, but is not limited to, plagiarism, copying answers during an exam, facilitating cheating by another student, altering a test grading sheet after the exam, or lying about an excuse for missing the exam. Plagiarism includes the use of paragraphs or even long phrases and diagrams or parts of diagrams from peer or former student reports and maps in your own report without proper acknowledgement of the source. Proper acknowledgement of sources clears the student from academic dishonesty charges, but does not fulfill the work obligations of the student and the acknowledged item will count ì0î points on the report.

SCHEDULE

WEEK 1	Introduction to field work, Intro to the Brunton compass and orientation measurements
Jan. 23	Compton 1, 2
WEEK 2	More Brunton compass, topographic maps, geologic field notes
Jan. 30	Compton 2, 6
	Deadline: Lab 1 Due 2:00 pm
WEEK 3	FIELD TRIP – Little Tujunga Canyon 2-5 p.m.
Feb. 6	**Notebook check at end of trip**
WEEK 4	Topography and geologic field contacts, rule of V's
Feb. 13	Compton 3
	Deadline: Lab 2 Due 2:00 pm
WEEK 5	Basics of Geologic Mapping, Geologic Structures
Feb. 20	Compton 4, 5
WEEK 6	FIELD TRIP – Little Tujunga Canyon 2-5 p.m.
Feb. 27	**Notebook check at end of trip**
WEEK 7	Preparing Geologic Cross-Sections
Mar. 6	Compton 6
	Deadline: Lab 3 Due 2:00 pm

WEEKEND FIELD TRIP: SATURDAY-SUNDAY MAR 9-10
6:30 a.m. departure, Parking Lot G3
~6:30 p.m. return

WEEK 8	Begin using Adobe Illustrator to make e-maps
Mar. 13	(Computer required; meet in EH2028)
WEEK 9	More on using Adobe Illustrator to Make Electronic Geologic Maps and Figures
Mar. 20	(Computer required; meet in EH2028)
	Deadline: Lab 4 Due 2:00 pm

WEEKEND FIELD TRIP: FRIDAY-SUNDAY MARCH 22-24
6:30 a.m. departure, Parking Lot G3
~6:30 p.m. return

WEEK 10	Preparing a Geologic Report
Mar. 27	Compton 6

WEEK 11 Work on Geologic Report (text and figures)
Apr. 3

(Alternate) WEEKEND FIELD TRIP: FRIDAY-SUNDAY April 5-7

Apr. 10 ***SPRING BREAK WEEK APRIL 8-12***

WEEK 12 **First Draft of Geologic Report Due April 20 at 4:00 p.m. SHARP;**
Apr. 27 *First Draft Includes **1 COPY OF THE FOLLOWING**:*

- *Entire 5-page typewritten report in proper format*
- *Figures (geologic map, cross section, stratigraphic column, and index map)and captions completed and appended to the end of the report*

WEEK 13 Geologic Report Revisions
Apr. 24

WEEK 14 Geologic Report Revisions
May 1

WEEK 15 Geologic Report Revisions
May 8 **Final Draft of Geologic Report Due May 8, 4:00 p.m. SHARP**