GLG 452 Field Geology II, 2010
SYLLABUS

Instructors: Thomas Sharp, PSF 534, phone: 480-965-3071, e-mail: tom.sharp@asu.edu
Steve Semken, PSF 6 PSF 640, phone: 480-965-7965, e-mail: semken@asu.edu

TAs: Rebecca Frus: Rebecca.Frus@asu.edu
Danny Foley: danny.foley@asu.edu
Derek Miller: derek.joshua.miller@asu.edu

Required text: *Geology in the Field* by R. R. Compton, 1985
*AGI's Dictionary of Geological Terms*

Pre-requisite: GLG451
Location: Ponderosa Campground, 16 miles east of Payson AZ

**Geologic Mapping:** The primary tool for understanding the geology and attaining field skills is geologic mapping. Students will work in pairs, observing, describing, and mapping aspects of the local geology. The skills that will be practiced are those that were developed in GLG 451 and include map location, description and recognition of units, interpreting the three-dimensional geologic structures, and testing hypotheses in the field by collecting critical data. Students will map up to four map sectors in the Tontozona area. Interpretation of the mapping results and preparation of a professional quality geologic map, cross section, and report will be done for each map sector.

**Writing Geologic Reports:** Based on field observations and descriptions, geologic mapping, and interpretations of the geology made through constructing geologic cross sections, students will write detailed geologic reports for all four map sectors. These 3-5 page reports (additional pages for figures and references) are important because they provide instruction in technical writing of geologic reports and they require students to present the solutions to geologic problems solved through geologic mapping and analysis of the map data. These reports will be graded for both content and writing style. Instruction and writing tips will be provided as well as instruction and editing during preparation of reports. Written feedback will be provided on the day following the due date for maps, cross sections and reports. Note that this course satisfies the University Literacy and Critical Inquiry (L) General Studies requirement and so writing is emphasized.

**Grading:**
Grades will be earned based on the following breakdown:
- Geologic Maps: 42%
- Field Notes and Map: 12%
- Geologic Cross Sections: 21%
- Geologic Reports: 25%
Logistics
Elevations: Working at 5300' to 6000'.
Terrain: Hilly to steep in places with a mix of forest, glade and brush
Weather: Warm to hot days (up to about 100 °F possible) with cool evenings, but temperatures can be very cold. Expect to drink lots of water every day (minimum two liters, but I take four). The weather will be sunny so bring a wide-brimmed hat, sunscreen and sun protective clothing.

Accommodations: You will be camping in a group campsite in a National Forest campground called Ponderosa. There are no bathrooms here, but there are Forest Service pit toilets and drinking water. You will need to bring your own camping gear, including: tent, sleeping bag, sleeping pad, camp chair, warm clothes, water bottles, and cup.

Work area: Each day you will work in a map sector. Each evening you will work on your office map, cross sections, reports and figures to be turned in. The classroom tents will be our work area where there will be computers, light tables and other materials needed for producing maps, cross section and reports.

Materials: You will need all of the field gear that you used in the first field course. A detailed list of gear will be given as a separate document. You should have drafting materials so that you can draft maps and cross sections by hand. Especially useful for cross sections are dividers (a drafting compass with two points).

Clothing: I highly recommend that you map in long pants to protect your legs from the thorny brush in much of the area. Light colored pants and long sleeves also provide protection from the sun and from heat exhaustion. Bring a hat, bandanas, and other sun-protective clothing. I also recommend that you wear bright colored clothing so that you will be visible to others. Bring warm clothes for the evenings. You will also need rain gear. Although this is a dry time of the year in this region, rain and even snow are possible.

Vehicles: We are limited in parking in the campground. We can only have six private cars in our camping area, in addition to the ASU vans. You are not allowed to use your cars during camp without permission from the instructor or TA. On weekends you can use your cars as you please.

Food: Nutritious breakfasts, lunches and dinners will be provided, but you may want to supplement a few of your favorite snack foods and beverages. I will not provide soft drinks so if you want to drink Coke or other pop, you must bring it yourself. The class will be divided into cooking/cleanup groups so be prepared to help out. If you do not know how to cook, I will teach you.
Alcohol

Alcoholic beverages are not allowed. This class is a very intensive field course that has no time for partying. However, Saturday nights are yours to do what you want.

Telephone:

Cell phone coverage is bad in the area, but Verizon does have coverage at the campground. You may also get coverage in some high-elevation locations.

Safety:

Safety is a very high priority in this course. You will work in pairs and each pair will have a radio in case of emergency. More detailed descriptions of safety issues and rules will be provided later.

Schedule:

5/31:
Meet at the ASU PSF loading dock at 3:00 PM with all gear ready to pack up. If you are driving your own vehicle, we may still need your help in packing and transporting gear. We will arrive at Ponderosa at about 5:00 PM where we will set up camp. If you arrive before the instructor, you must wait before starting to set up. We will have dinner and then a meeting to prepare for the first day in the field.

6/1:
Breakfast at 6:00-6:30 AM. Departure for field work between 6:30 and 7:00 AM and return at 3:30 PM. Dinner at 6:00 PM and class meeting at 7:00 PM. Expect to work in the afternoons and or evenings.

6/2-5:
Same routine as on Tuesday, but we will quit at 2:00 PM on Saturday June 5. You are welcome to head back to the valley on Saturday afternoon, or you can stay at camp. There will be no meals served on Saturday night and Sunday morning but you can use the cooking facilities.

6/6:
There will be an optional Sunday-night dinner at 6:00 PM, mandatory class meeting at 7:00 PM. Please let us know if you plan to participate in the optional meal.

6/7-6/12:
Same as previous week.

6/13-6/18:
Last week of mapping and office work.

6/18:
Turn in your last sector by 4:00 PM. Begin packing and or relaxing for the remainder of the day. There will be a celebration that evening.

6/19:
Pack up, and go home by mid morning and return to ASU by midday. We need your help in packing up.