

## University of South Alabama Course Syllabus

### ***Course Information***

Term: May-mester 2018

GY480, section 101, Field Geology (6 semester credits)

Course Format: Web-enhanced off-campus

Class days and time: TBA (off campus at mapping sites in AL, TX, and NM; see below schedule)

Building/Room number: N/A

### ***Instructor Information***

- David T. Allison, Ph.D.
- 460-6381 (Earth Sciences main office)
- dallison@southalabama.edu
- Office hours: <http://www.usouthal.edu/geography/allison/CurrentSchedule.pdf> (updated each term)
- Life Sciences Bld. #344

### ***Course Description***

A six-week, summer field course on the methods of geologic surveying, the construction and analysis of geologic maps and cross-sections, and measurement of stratigraphic sections. Prerequisites: HS170 (First Aid), GY301 (Applied Geomorphology), GY303 (Igneous & Metamorphic Petrology), GY304 (Stratigraphy), GY402 (Sedimentary Petrology), GY403 (Structural Geology); or permission of instructor. Course Topical Outline

GY480 Field Geology Mapping Projects:

Travel Schedule from Mobile

The course begins on the Monday after spring semester commencement. The field camp van(s) leave the Life Sciences building at 9:00 AM to Cheaha State Park in the vicinity of Anniston, AL. Travel time is approximately 5 hours. Instruction will begin at 8:00 AM on the following Tuesday.

The weekly work schedule will be full work days Monday through Friday with a half day on Saturday. Sundays will be off days for washing clothes and cleaning up the camp site. If we are rained out during the week we may be forced to work full days on Saturday and Sunday. A typical work day will consist of leaving for the field at 8:00 AM and arriving back at camp at approximately 5:00 PM.

***Below is a tentative schedule of projects:***

**Cheaha Project (Alabama): May 7-15**

**Inks Lake Project (Texas): May 16-26**

**Ghost Ranch Project (New Mexico): May 27 – June 4**

(Select this link for GY480 2018 daily calendar:

[http://www.usouthal.edu/geography/allison/GY480/Schedule\\_2018.pdf](http://www.usouthal.edu/geography/allison/GY480/Schedule_2018.pdf) )

Day 1-6: Cheaha State Park 1:12,000 Geologic Map & Cross Section Project (Cheaha State Park, AL).

Day 7-9: Return to Mobile on Day 7; Turn in Cheaha Project on Day 9.

Day 10-18: Inks Lake State Park & Murchison Ranch 1:12,000 Geologic Map and Cross-section, TX, Project.

Day 19: Travel to and camp at Palo Duro State Park, TX.

Day 20-29: Ghost Ranch, NM 1:24,000 Geologic Map and Cross-Section: Camp at Ghost Ranch Campground near Abiueque NM (Tents)

Day 30: Wheeler Peak Hike; Ghost Ranch Project due.

Day 31: Great Sand Dunes camping.

Day 32: Travel to near Oklahoma City OK (Motel)

Day 33: Travel to near Hot Springs AR (Motel)

Day 34: Travel to Mobile AL

### ***Course Goals and Objectives***

The main objectives of the field course are to provide the student with the following skills:

1. Map location with pocket transit and GPS, including triangulation with topographic maps.
2. Basic map location techniques with the pocket transit and topographic map (hand-leveling, triangulation, etc.).
3. Topographic and geologic survey techniques with the pocket transit/GPS.
4. Geologic field mapping and structural analysis in a poly-deformed metamorphic and igneous terranes, and folded to un-deformed sedimentary rocks.
5. Measurement of stratigraphic section and construction of stratigraphic columns with detailed description.
6. Construction of geologic cross-sections.

### ***Course Pre-requisites / Co-requisites***

Prerequisites: HS170 (First Aid), GY301 (Applied Geomorphology), GY303 (Igneous & Metamorphic Petrology), GY304 (Stratigraphy), GY402 (Sedimentary Petrology), GY403 (Structural Geology); or permission of instructor.

### ***Course Materials:***

Text (Recommended): Compton, R.L., 1962, Manual of Field Geology, John Wiley & Sons, New York, 378 p.

#### ***a) Required Field Equipment***

1. Day pack (<http://www.rei.com/product/827133/rei-trail-25-pack>)
2. Rock pick ([http://www.forestry-suppliers.com/product\\_pages/View\\_Catalog\\_Page.asp?mi=3143&title=Estwing+Long+Handle+Rock+Pick](http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=3143&title=Estwing+Long+Handle+Rock+Pick))
3. "Sharpie" Thick Marker pen for marking rock samples

4. Colored pencils ([http://www.amazon.com/Verithin-Colored-Woodcase-Pencils-Assorted/dp/B001GXE2VS/ref=cm\\_cr\\_pr\\_product\\_top](http://www.amazon.com/Verithin-Colored-Woodcase-Pencils-Assorted/dp/B001GXE2VS/ref=cm_cr_pr_product_top))
5. Drawing pencil (0.5mm HB,2H lead) ([http://www.forestry-suppliers.com/product\\_pages/View\\_Catalog\\_Page.asp?mi=8245&title=Alvin+Draft/Matic+Mechanical+Pencils](http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=8245&title=Alvin+Draft/Matic+Mechanical+Pencils))
6. All weather Rite-in-Rain Pen ([http://www.forestry-suppliers.com/product\\_pages/View\\_Catalog\\_Page.asp?mi=5727&title=Rite+in+the+Rain+All-Weather+Pens](http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=5727&title=Rite+in+the+Rain+All-Weather+Pens))
7. All Weather Rite-in-Rain Notebook (NOTE: get 2 for GY480) ([http://www.forestry-suppliers.com/product\\_pages/View\\_Catalog\\_Page.asp?mi=7853&title=%E2%80%9CRite+in+the+Rain%E2%80%9D%C2+Geology+Field+Book+with+Reference](http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=7853&title=%E2%80%9CRite+in+the+Rain%E2%80%9D%C2+Geology+Field+Book+with+Reference))
8. Hand lens ([http://www.amazon.com/BAUSCH-LOMB-Hastings-Triplet-Magnifier/dp/B0011GINQU/ref=sr\\_1\\_2?ie=UTF8&qid=1327465583&sr=8-2](http://www.amazon.com/BAUSCH-LOMB-Hastings-Triplet-Magnifier/dp/B0011GINQU/ref=sr_1_2?ie=UTF8&qid=1327465583&sr=8-2))
9. Protractor ([http://www.forestry-suppliers.com/product\\_pages/View\\_Catalog\\_Page.asp?mi=5938&title=Protractors+and+Circles](http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=5938&title=Protractors+and+Circles))
10. 8.5" x 11" vellum
11. Calculator (with trig functions)
12. Engineer's Scale
13. Stereonet, equal-area, 3.5 inch radius mounted on cardboard or plywood with tack.
14. Several push-pins for marking stations on maps
15. Bottle of dilute HCl acid (steal some from room 335)
16. Pocket knife (hardness test)
17. Drafting dots tape ([http://www.amazon.com/Commercial-Office-Supply-Div-Products/dp/B004E3O6Z4/ref=sr\\_1\\_18?s=office-products&ie=UTF8&qid=1327460849&sr=1-18](http://www.amazon.com/Commercial-Office-Supply-Div-Products/dp/B004E3O6Z4/ref=sr_1_18?s=office-products&ie=UTF8&qid=1327460849&sr=1-18))
18. Pigment Liner Pen set ([http://www.forestry-suppliers.com/product\\_pages/View\\_Catalog\\_Page.asp?mi=7130&title=Staedtler+Pigment+Liners](http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=7130&title=Staedtler+Pigment+Liners))
19. Drafting board ([http://www.amazon.com/Helix-Drawing-Board-inches-37182/dp/B003LQQ3O2/ref=cm\\_cr\\_pr\\_product\\_top](http://www.amazon.com/Helix-Drawing-Board-inches-37182/dp/B003LQQ3O2/ref=cm_cr_pr_product_top))
20. Clipboard (measuring strike & dip) ([http://www.forestry-suppliers.com/product\\_pages/View\\_Catalog\\_Page.asp?mi=1167&title=Neon+Clipboard](http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=1167&title=Neon+Clipboard))

***b) Optional Equipment (not required but "nice" to have)***

1. Binoculars ([http://www.forestry-suppliers.com/product\\_pages/View\\_Catalog\\_Page.asp?mi=7078&title=Brunton+Echo+Binoculars](http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=7078&title=Brunton+Echo+Binoculars))
2. Crack hammer ([http://www.forestry-suppliers.com/product\\_pages/View\\_Catalog\\_Page.asp?mi=3147&title=Estwing+Crack+Hammers](http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=3147&title=Estwing+Crack+Hammers))
3. Chisel ([http://www.forestry-suppliers.com/product\\_pages/View\\_Catalog\\_Page.asp?mi=3155&title=Estwing+Rock+Chisels](http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=3155&title=Estwing+Rock+Chisels))
4. Digital Camera
5. Pocket Transit (all of the below can measure strike & dip of planes or bearing & plunge of lines)
  - GEO International (the ultimate!) ([http://www.forestry-suppliers.com/product\\_pages/View\\_Catalog\\_Page.asp?mi=7084&title=Brunton+GEO+International+Geological+Structural+Transit](http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=7084&title=Brunton+GEO+International+Geological+Structural+Transit))

Standard Pocket Transit (azimuth) ([http://www.forestry-suppliers.com/product\\_pages/View\\_Catalog\\_Page.asp?mi=1310&title=Brunton+Pocket+Transits](http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=1310&title=Brunton+Pocket+Transits))

70M Mirrored Compass ([http://www.forestry-suppliers.com/product\\_pages/View\\_Catalog\\_Page.asp?mi=7926&title=Brunton%C2+70M+Professional+Mirrored+Compass](http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=7926&title=Brunton%C2+70M+Professional+Mirrored+Compass))

Silva Ranger ([http://www.forestry-suppliers.com/product\\_pages/View\\_Catalog\\_Page.asp?mi=1296&title=Silva+Ranger+Compass+with+Built-In+Clinometer](http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=1296&title=Silva+Ranger+Compass+with+Built-In+Clinometer))

5. Garmin Dakota 20 GPS ([http://www.forestry-suppliers.com/product\\_pages/View\\_Catalog\\_Page.asp?mi=7280&title=Garmin+Dakota+Series](http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=7280&title=Garmin+Dakota+Series))

6. Garmin US 1:100,000 microSD base map (Works with Dakota 20 GPS) ([http://www.forestry-suppliers.com/product\\_pages/View\\_Catalog\\_Page.asp?mi=4584&title=Garmin+Topo+100K+on+microSD](http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=4584&title=Garmin+Topo+100K+on+microSD))

7. Laptop computer

### ***c) Required Personal Field and Camp Equipment***

1. Camelback or similar hydration pack ([http://www.forestry-suppliers.com/product\\_pages/View\\_Catalog\\_Page.asp?mi=8132&title=CamelBak%AC+HydroBak+Water+Pack](http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=8132&title=CamelBak%AC+HydroBak+Water+Pack))

2. Hat with brim ([http://www.forestry-suppliers.com/product\\_pages/View\\_Catalog\\_Page.asp?mi=8713&title=Helios+Sun+Hat](http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=8713&title=Helios+Sun+Hat))

3. DEET insect repellent ([http://www.forestry-suppliers.com/product\\_pages/View\\_Catalog\\_Page.asp?mi=6558&title=Controlled+Release+Lotion](http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=6558&title=Controlled+Release+Lotion))

4. Personal first-aid kit ([http://www.forestry-suppliers.com/product\\_pages/View\\_Catalog\\_Page.asp?mi=3616&title=First+Aid+Travel+Kit](http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=3616&title=First+Aid+Travel+Kit))

5. Thermarest pad or equivalent. ([http://www.forestry-suppliers.com/product\\_pages/View\\_Catalog\\_Page.asp?mi=6078&title=Ridge+Rest+Foam+Cell+Sleeping+Pad](http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=6078&title=Ridge+Rest+Foam+Cell+Sleeping+Pad))

6. Tents (Below are models that have performed well for me or friends) Eureka Tetragon 4-person ([http://www.forestry-suppliers.com/product\\_pages/View\\_Catalog\\_Page.asp?mi=7897&title=Eureka%21%C2+Tetragon+4+Tent](http://www.forestry-suppliers.com/product_pages/View_Catalog_Page.asp?mi=7897&title=Eureka%21%C2+Tetragon+4+Tent))

Kelty Gunnison 2-person Backpacking Tent (<http://www.rei.com/product/796133/kelty-gunnison-21-tent>)

Kelty Grand Manan Tour 5 person with vestibule screen room ([http://www.campmor.com/outdoor/gear/Product\\_\\_\\_27900#](http://www.campmor.com/outdoor/gear/Product___27900#))

7. Enough clothing for 6 days of field work. Clothing should be light weight cotton shirts, jeans, or shorts that are appropriate for hot weather. Bring 2 pairs of jeans and warm long-sleeve shirts for

cold nights at Taos Ski Valley and Grand Canyon. You should have a warm fleece-type jacket with a waterproof (GorTex recommended) outer shell rain jacket that can be worn over the fleece.

8. Boots with ankle support. Use thick wool hiking socks with nylon sock liners to avoid blisters. Bring water shoes for stream crossings.

9. Towels for tent camping days (none are supplied by the campgrounds)

10. Camp mess kit

(<http://www.campmor.com/outdoor/gear/CAMOmniFindQueryCmd?storeId=226&catalogId=40000000226&langId=->

[1&searchCategory=&ip\\_state=&ip\\_constrain=&ip\\_navtype=search&pageSize=24&currentPage=&ip\\_sortBy=&searchKeywords=21222-Q](http://www.campmor.com/outdoor/gear/CAMOmniFindQueryCmd?storeId=226&catalogId=40000000226&langId=-1&searchCategory=&ip_state=&ip_constrain=&ip_navtype=search&pageSize=24&currentPage=&ip_sortBy=&searchKeywords=21222-Q))

11. Juice/Coffee mug

12. Eating utensils (knife/spoon/fork comb)

(<http://www.campmor.com/outdoor/gear/CAMOmniFindQueryCmd?storeId=226&catalogId=40000000226&langId=->

[1&searchCategory=&ip\\_state=&ip\\_constrain=&ip\\_navtype=search&pageSize=24&currentPage=&ip\\_sortBy=&searchKeywords=23101-Q](http://www.campmor.com/outdoor/gear/CAMOmniFindQueryCmd?storeId=226&catalogId=40000000226&langId=-1&searchCategory=&ip_state=&ip_constrain=&ip_navtype=search&pageSize=24&currentPage=&ip_sortBy=&searchKeywords=23101-Q))

13. These items will mitigate the effects of the high-altitude arid climate in NM & TX: saline nasal spray, lip balm, Vaseline skin lotion.

14. Because of the many miles of hiking and the “less than perfect” cleanliness of campground restrooms and showers you will more than likely need foot powder and anti-fungal foot lotion. The foot powder will also keep your boots from developing “unwanted” odor.

15. Headlamp (for hands-free work at night)

([http://www.campmor.com/outdoor/gear/Product\\_\\_\\_73118](http://www.campmor.com/outdoor/gear/Product___73118))

### ***Meals***

You are responsible for these meals during the course:

Cheaha S.P. (Days 1-6): Student responsible for all meals.

Break in Mobile; Prepare Cheaha Project (Days 7-9): Student responsible for all meals

Inks Lake (days 10-18): Students responsible for M-F breakfast+lunch, and all weekend meals. M-F dinners are catered by Hoover Valley Cafe.

Travel to Palo Duro/Caprock Canyon (Day 19), Travel to Taos Junction (Day 20): Students are responsible for all meals.

Taos Junction: (Days 21-26): Students responsible for breakfast+lunch. Staff will provide dinners

Taos Ski Valley (AustingHaus Motel) (Days 27-32): Motel provides all meals

Travel from Taos Ski Valley to Mobile: Students are responsible for all meals (Days 33-34)

The ES department will provide three Coleman propane stoves at the camp site. The department will also provide basic cooking implements such as skillets and pots, however, if you have special diet considerations please discuss them with the instructors several weeks prior to the start of the course. You will need to bring your own personal plate, utensils, Coffee mug, etc. We will make periodic trips to town for food and ice. You should be prepared to make a light breakfast in camp M-F. We will have lunch and dinner provided by the Hoover Valley Café M-F for the Inks Lake duration. Weekend meals will either be

on the road or prepared at the campsite. Regardless of the meals you should make sure you have an ample supply of fluids at all times. The department will supply an ice chest that will be in the van at all times.

### ***Transportation***

You are responsible for your transportation to and from the Llano area unless you are designated for the van by your instructors. Places in the van are assigned on a "first-come" basis after the deposit for the course has been paid. The department van will be limited to 6 students (max seatbelt capacity). Additional rental/university vehicles may be used depended on enrollments/budget constraints. Deposits may be paid anytime after the Spring semester begins. I encourage anyone who wants to bring their private vehicle since the van will be crowded with people and equipment. For those that are riding in the van, you should meet with the instructors several days before the trip so that you know where and how your gear will be stored.

Although I encourage you to take your personal vehicles to the camp, in general I will not allow you to take you personal vehicles to the mapping sites during the field course. If you want to do extra field work on Saturdays or Sundays check with me first before traveling to the mapping site in your vehicle. For students who may choose to ride in a privately owned vehicle you should know that USA has no responsibility over that vehicle so you do so assuming all risks that are related to traveling in a privately owned vehicle.

### ***Rules***

1. You will be assigned to groups when working on mapping projects. Do not wander off by yourself for any reason. You will work in groups so that if someone has an accident the other persons in the group can go for help. If I find that you have purposely left your group I will fail you for that project (I am serious about this rule). Part of this course is learning to work with others.
2. Respect the landowner's property. Don't tear down any fences or leave gates unlocked for any reason. Don't leave trash in the area. If I find that you have done this I will dock you a letter grade on the project.
3. Beware of, and obey all local laws, rules and park regulations. When you get to Ink's Lake State Park read the rules and regulations. If I see you doing something illegal I will warn you once. If any additional violations come to my knowledge I will advise the park rangers as to what is occurring and then you will be at their mercy. This also applies to the any time spent in motels. Most camp grounds have quiet hours posted from 10PM to 6AM. Texas State Parks prohibit public consumption of alcohol.
4. When climbing on outcrops never climb directly above another person. Serious injury may occur if you knock loose a boulder.
5. Wear eye protection when using a rock hammer.
6. Don't be late. I will assign departure times for the van each night. If you over-sleep you will be left at the camp site/Motel. Missing one day can easily cost you several letter grades on a mapping project. It also puts a burden on your group partner(s). You will not be allowed to copy your partners notes or map data unless you have a valid excuse for missing that day.
7. Buy a sheath for your rock hammer. I have seen unsheathed rock hammers cause very nasty wounds when fallen on.

### ***Class Attendance Policy***

- Students who complete less than 50% of assignments/exams will be assigned an F\* grade.

- Students are expected to be ready to travel to mapping sites by 8AM each morning (or earlier if planned by faculty leader). Failure to be prepared for field work will be treated as an absence and will result in zero credit for the days work.
- You may wish to review the ‘Attendance and Absences Policy’, in the Undergraduate Academic Policies and Procedures section of the *Undergraduate and Graduate Bulletin* for attendance and absences policy

### ***Important Dates***

- All May-mester tuition and fees due: May 4
- Last day to drop a course: May 20

### ***Assessments***

- Make-up exams will be given only in the case of a valid, documented emergency
- Late work is not accepted and will be assigned 0 credit
- No extra credit will be offered

### **Procedures for Assessing Student Performance**

Item	Points out of 100 total points
Field Notebook	15
Cheaha State Park, AL, Project	25
Ink’s Lake State Park, TX, Project	25
Copper Hill, NM, Project	25
Field Exam	10
TOTAL	100

### ***Changes in Course Requirements***

- Not all classes progress at the same rate thus course requirements might have to be modified as circumstances dictate. You will be given written notice if the course requirements need to be changed.

### ***Academic Disruption Policy***

- The University of South Alabama’s policy regarding Academic Disruption is found in *The Lowdown, the student handbook*.  
<http://www.southalabama.edu/lowdown/academicdisruption.shtml>: *Disruptive academic behavior is defined as individual or group conduct that interrupts or interferes with any educational activity or environment, infringes upon the rights and privileges of others, results in or threatens the destruction of property and/or is otherwise prejudicial to the maintenance of order in an academic environment.*
- *At all times students to be cordial, courteous and respectful of faculty members and fellow students.*
- Cell phones, laptops, videotaping and other electronic devices are not allowed in lecture or lab

### ***Student Academic Conduct Policy***

- The University of South Alabama’s policy regarding Student Academic Conduct Policy is found in *The Lowdown* <http://www.southalabama.edu/lowdown/academicconductpolicy.shtml>: *The University of South Alabama is a community of scholars in which the ideals of freedom of inquiry, freedom of thought, freedom of expression, and freedom of the individual are sustained. The*

*University is committed to supporting the exercise of any right guaranteed to individuals by the Constitution and the Code of Alabama and to educating students relative to their responsibilities.*

- Violation of academic conduct policy may result in receiving 0 credit for the affected exam/assignment.
- Students enrolled in online courses are expected to adhere to the Academic Conduct Policy. In particular, students are expected to complete their own coursework and not provide unauthorized information or materials to another student.
- Policy on plagiarism software.  
Students may learn about the meaning of plagiarism and how to avoid it at the following link: <http://www.southalabama.edu/univlib/instruction/plagiarismforstudents.html>.

### **Students With Disabilities**

- In accordance with the Americans with Disabilities Act, students with bona fide disabilities will be afforded reasonable accommodations. The Office of Special Student Services (OSSS) will certify a disability and advise faculty members of reasonable accommodations. If you have a specific disability that qualifies you for academic accommodations, please notify the instructor/professor and provide certification from the Office of Special Student Services. OSSS is located at 5828 Old Shell Road at Jaguar Drive, (251-460-7212).

### **Course and Teacher Evaluation**

- Student input for course improvement and instructor evaluations are taken seriously and do effect change.

### **Online Writing Support**

- The University of South Alabama provides online writing tutoring services through SMARTHINKING, an online tutoring service. SMARTHINKING is available at <http://services.smarthinking.com>. Students may enter the site by logging on with their Jag number and using the last four digits of the social security number as the password. For log-on problems, technical questions and/or on-campus writing assistance, contact the USA Writing Center at 251-460-6480 or e-mail [csaint-paul@usouthal.edu](mailto:csaint-paul@usouthal.edu).
- Information about the University Writing Center and Online Writing Lab can be found online at <http://www.southalabama.edu/univlib/instruction/antiplagiarism/writinghelp.html>.

**Last Update: 2/5/2018**