SYLLABUS
GEOL 4717: Summer Field Camp

About this course
Geology field camp is your opportunity to develop the skills of observation and interpretation while learning the technical aspects of field mapping, lithologic interpretation and structural analysis. Preparation of maps, stratigraphic charts, geologic cross sections, and reports is a critical part of the course. Upon completion of the class, you will have the skills necessary to perform many field tasks required in geologic professions and will be able to conduct field studies at a graduate level.

About the instructors
Director: Dr. Erin Campbell-Stone (structural geology)
Instructor in Sedimentology and Stratigraphy: Dr. Brandon McElroy
Instructor in Geophysics: Dr. Brad Carr
Teaching Assistants: Cassie Nauer, Evan Soderberg
Cooks: Austin Heller, Jane Warda

Course expectations
For the duration of this course, you are expected to participate in all projects and give each assignment your utmost effort. Since the course requirements include sed/strat and structural geology, you will be expected to know the content of those courses. You will be taught how to create a geologic map and cross section from field data, how to map in the field, and how to use field equipment. However, until the final project, this class is not a test! If you don't understand a concept or procedure, or have forgotten previous course content, we encourage you to ask questions as early as you can.

Grading
Due to the nature of this course, the grading system must remain flexible. Illness, weather, or mechanical problems will probably force us to modify the grading plan as we go. If you have any questions about the grading as the course proceeds, please ask.

75% of your grade will be based on:
1) projects (Laramie Range work, sed/strat projects, Sheep Creek structure project, geophysics project, Seminoe Reservoir structure project)
2) two assessments of your field notebook

25% of your grade will be based on your final project. This project is the culmination of your learning. It is a test of your geologic understanding and your ability to present it on a map and cross section. The final project is to be completed independently, with no assistance from other students or staff. Cheating on the final project will result in a grade of F for the course. The location of the final project will be revealed just prior to departure, at which time you may call family and friends to let them know where you will be located.

Project Assessment

All projects will be graded on their presentation, accuracy, and content.
The form below is an example of how a structural geology project would be evaluated:

Map	Points	Comments
Presentation, Key, Title Block (5)		
Units and Contacts (20)		
Attitudes (15)		
Structure (20)		
Cross-Section		
Presentation, Key, Title Block (5)		
Thickness and Topography (15)		
Interpretation (20)		
Total (100 %)		

Camp Behavior

For the next six weeks, you will be living closely with your fellow students and instructors. You must treat all members of field camp with the respect and consideration they desire. Recreation is encouraged, but must be conducted safely and with thoughtfulness for others. This can be a very enjoyable time if everyone follows some simple guidelines:

- No alcohol in university vehicles
- No hard liquor or illegal substances. Beer and wine is okay, 3 drink per night max, between 5 and 10 PM only
- No use of firearms
- 10 PM-6 AM noise curfew in camp
- No seconds on meals until everyone has been served
- Dishwashing rotation
- Keep a clean camp and clean vehicles (no living out of the back of the vehicle)
- No harming or harassing wildlife or livestock
- Campfires must be doused to a slurry before going to sleep

Visitors
We welcome visitors to field camp for a single, 1-2 night stay, but you must ask permission before inviting friends and family to join us in camp. When you have arranged for a visitor to join us, please inform the cook at least a week ahead of time, and be prepared to make a contribution for the food they consume. Pets are not allowed in the class camping area. Students may not have visitors during the final project.

Cell Phones
Many of our camp sites will be outside of cell phone service. There could be stretches of time as long as 3 days when you will not be able to make cell phone calls. In emergencies we can be reached by the Forest Service/BLM rangers. Cell phones may be charged from vehicles while the vehicles are being driven; there will be periods of time when your cell phone is dead and cannot be charged.

Field Behavior
While in the field, you are expected to work in a professional manner. We will generally start work at 8 AM, and end at 5 PM. While you are encouraged to work on your maps and cross-sections in the evenings, we cannot allow you to continue mapping after dinner for safety reasons. The guidelines to follow are:

- Work with your assigned partner, and your assigned partner only.
- Work diligently but be mindful of safety.
- Treat public and private property with respect.
- Do not litter in the field. (No orange or banana peels, cigarette butts, or toilet paper)
- Work independently when required.
- No earbuds or headphones while hiking.

Field Preparation
You are REQUIRED to carry at least 2 liters of water in the field.
Every field day bring water, lunch and field gear inside the vehicle with you. Do not expect to stop at a store. When we leave from Laramie you must provide your own lunch and water.

Removal from Field Camp
There have been a few cases of students being expelled from UW Field Camp. The causes for expulsion include, but are not limited to:

- Use of illegal substances or hard liquor, drunkenness
- Reckless use of vehicles (including driving under the influence of alcohol)
- Endangerment of self, other students or staff
- Harassment of other students or staff, sexual or otherwise
- Refusal to comply with rules or participate in projects
- Continually uncooperative or dangerous behavior

Safety
The first priority of field camp is that everyone returns home safely. Do not engage in any activities that endanger yourself or others. *Rock climbing, bouldering, and boulder rolling are*

never permitted. *Alcohol is never to be consumed in the vehicles, and drivers of the vehicles are not to be under the influence of alcohol or drugs*. Never climb any cliff or mountain that makes you uncomfortable. If you feel the driver of your vehicle is driving dangerously, tell the field camp director immediately. If you are in any situation that puts your safety at risk or you perceive may put your safety at risk, remove yourself from that situation immediately and inform the field camp director.

Lightning is a very real danger in the Rocky Mountains. At the first sign of lightning, quickly get down from any ridge or mountain. Even if you do not see flashes, you are in striking range if you can hear thunder. Return to the vehicles and get inside with the windows closed. Do not touch the frame or lean against the vehicle. If there is no shelter, crouch in the open (to avoid direct strikes) twice as far from the tallest tree as it can fall (to avoid ground strikes). You can also crouch in a grove of small trees. Stay away from water. Move away from a group of people and drop your pack and hammer. An enclosed vehicle is safer than an open picnic shelter.

Snakes and *biting insects* are always a risk in the outdoors. We suggest you carry a snake bite kit, wear long pants tucked into your shoes and use mosquito repellant.

Ticks are common in the areas we will be visiting. You should check for ticks <u>every evening,</u> paying special attention to the backs of your knees, groin and torso. If you are bitten by a tick use tweezers to grasp the tick by the head as close to your skin as possible. Do not squeeze the body! Pull straight out until the tick loosens and comes free; this may take several seconds. If pieces of the tick's mouth remain, pull them out separately. Smash the tick in a tissue; do not use your bare hands. Wash the bite site thoroughly with soap and water and thoroughly wash your hands.

Ticks transmit infection only after biting, and the risk of acquiring Lyme disease is only 1.2-1.4 percent in areas where Lyme disease is common (the northeastern US). The risk of Lyme disease in the Rocky Mountains is even lower. Here there is a risk of Colorado tick fever, which most often goes away on its own and is not dangerous, though complications can occur.

If you have been bitten by a tick, watch the bite site for infection (reddishness around the bite), for fever-like symptoms 3-6 days after the bite (Colorado tick fever) or a circular rash between 1 and 4 weeks after the bite and flu-like symptoms (Lyme disease). In each case, medical help is recommended.

West Nile Virus exists in the Rocky Mountains. It is contracted through mosquito bites, and can be prevented by wearing mosquito repellent. The incubation period for the virus is 3-14 days. According to the CDC, people over 50 are at greatest risk for severe reactions. When someone is infected with West Nile virus they will typically have one of three outcomes: No symptoms (80% of people), West Nile Fever (about 20%) or severe West Nile disease, (less than 1%). If you develop a high fever with severe headache, consult your doctor.

Bears inhabit many of the areas where we will be working. The chances of meeting bears are extremely low, largely because of bears' disinterest in most people. All bears are potentially dangerous; they are unpredictable and able to inflict serious injury. NEVER feed or approach a

bear. Do not cook or eat in or near your tent or get food odors on your sleeping bag. Do not keep food, toothpaste, sunscreen, beer, and other smelly items in your tent. Sleep in different clothing than you wear for cooking and eating. Use a flashlight at night to warn bears away.

Mountain lions are common in the areas we are visiting. Chances of an encounter with a mountain lion are small, but some precautions should be taken. Stay with your partners and make noise as you hike; this will prevent encounters. If you see a mountain lion, do not squat down or bend over (you resemble prey), and do not turn your back (running triggers the instinct to chase). Face the lion and look as large as possible, flap your jacket, shout, throw rocks, and back away slowly.

Dehydration and heat illness can be avoided. The sun is very strong at these high elevations. You must wear sunscreen, light colored shirts that cover your shoulders, and a hat. Drink plenty of water. In a dry climate, you may not be aware of how much fluid you have lost to sweat. If you are experiencing headaches, you are probably not drinking enough water. If you experience weakness, dizziness, muscle cramps, nausea, rapid pulse, profuse sweating or clammy skin, very high body temperature, and/or disorientation, you may have heat illness of varying severity. At the first sign of these symptoms, rest in a shady area (if possible), drink water, and loosen your gear and clothing. You may need to send your field partner for help.

If you miss a project due to preventable heat exhaustion (no hat, no shirt), you will get zero points for that project.

Hypothermia is caused by exposure to cold, aggravated by wet, wind, and exhaustion. It is the number one killer of outdoor recreationalists. The moment your body begins to loose heat faster than it produces it, you are undergoing exposure. Persistent or violent shivering is a clear warning that you are on the verge of hypothermia. Symptoms may also include vague, slow, slurred speech; memory lapses or incoherence; immobile, fumbling hands; frequent stumbling; drowsiness; or apparent exhaustion. To prevent hypothermia: 1) stay dry, 2) wear wool, not cotton, 3) be aware of the wind, 4) understand cold (most hypothermia cases develop in 40-50 degrees, dangerous temperatures if you are wet or exhausted), 5) avoid alcohol on cold nights, 6) sleep inside a tent.

Driving University regulations require that all travel for courses is in university vehicles. You cannot drive your own vehicle. Drivers of university vehicles must operate the vehicles cautiously and safely at all times. Only drivers in the motor pool system may drive a university vehicle.

Your safety during field camp working hours and recreational time is your own responsibility. If you are concerned about your safety at any time, you have the right to choose not to participate in that activity and should alert the staff immediately.

Physical/Dietary Requirements

Please inform the field camp directors of any physical requirements, or risks related to any physical or dietary needs or requirements you may have. If you have dietary requirements, you

must tell the camp cook as soon as possible. We will do our best to accommodate your needs, but be aware that our campsites are often primitive and nearby groceries can be limited.

Gear Checkout

All of the field mapping gear required for the course is available for you to borrow. You must return these items at the end of the course, or you will be charged the following amounts:

Brunton Compass	$290
GPS	$130
Stereoscope	$25
Hand Lens	$25
Map Board	$35

Payment of Fees

Fees are due to UW before June 1. If you postpone paying your fees while waiting for financial aid, be warned that you will be assigned a grade of "incomplete" until the fees are paid. There are NO exceptions to this rule.

Academic dishonesty

Academic dishonesty is defined by UW regulation 802, revision 2, as "an act attempted or performed which misrepresents one's involvement in an academic task in any way, or permits another student to misrepresent the latter's involvement in an academic task by assisting the misrepresentation." Academic dishonesty is not tolerated, and there is a well-defined university procedure to judge such cases.

Students who obtain work from previous field camp students will be dismissed from the course with a grade of F.

University of Wyoming Geology Field Camp 2015 Schedule

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
MAY 2015			**20** 2 PM, Geol 211 First Meeting	**21** 8 AM Leave for RMS GSA—Attend Meeting in afternoon Camp Alcova	**22** RMS GSA Camp Alcova	**23** RMS GSA Return to Laramie in Evening
24 Day Off	**25** Intro to Mapping Day Stay in Laramie	**26** 9 AM Leave for Sheep Creek, Begin project Camp Flaming Gorge	**27** Sheep Creek Project. Camp Flaming Gorge.	**28** Sheep Creek Project. Camp Flaming Gorge.	**29** Sheep Creek Project. Camp Flaming Gorge.	**30** Sheep Creek Project. Camp Flaming Gorge.
31 Project Due, Return to Laramie. Stay in Laramie	**June 1** Day off (Optional Trip to AAPG with Brad Carr) Stay in Laramie	**2** Meet at 8:30 AM Geophysics Project with Dr. Carr Stay in Laramie	**3** Geophysics Project Stay in Laramie	**4** Geophysics Project Stay in Laramie	**5** Geophysics Project Stay in Laramie	**6** Geophysics Project Stay in Laramie
7 Geophysics Project Stay in Laramie	**8** Geophysics Project Stay in Laramie	**9** Geophysics Projects Due Stay in Laramie	**10** Day off Stay in Laramie	**11** Drive and Work on way to Green River with Dr. McElroy Camp Green River	**12** Inverted Channel Project Camp Green River	**13** Inverted Channel Project Camp Green River
14 Mapping Project Camp Green River	**15** Mapping Project Camp Green River	**16** Return to Laramie Stay in Laramie	**17** Day off	**18** Day off	**19** Igneous mapping Stay in Laramie	**20** Igneous mapping Stay in Laramie
21 Day off	**22** Meet 10 AM. Drive to Seminoe Reservoir Camp Seminoe	**23** Map Seminoe Camp Seminoe	**24** Map Seminoe Camp Seminoe	**25** Map Seminoe Camp Seminoe	**26** Turn in Project, return to Laramie Stay in Laramie	**27** Day off
28 Meet at 8 AM Final exercise Location TBA.	**29** Final exercise, location TBA. Camp TBA.	**30** Final exercise, location TBA. Camp TBA	**July 1** Final exercise, location TBA. Camp TBA	**2** Final exercise due. Return to Laramie	**3**	**4**