

Geoph 436 Field Camp - 2014
Tentative: Sunday August 24 to
Monday September 1,
Final Reporting TBD Fall Semester,
2014

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PDF file of this information available [here](#).

Geophysics 436 is an intensive week long field camp for the 4th year undergraduate and often 1st year graduate students in Geophysics. Geophysics 436 is a mandatory component of the undergraduate Geophysics degree and after 2014 will be a requirement for those seeking Professional registration under APEGA.

The field camp is carried out near Writing-On-Stone Provincial Park in Southern Alberta with the basecamp at [Allerston Community Hall](#) about 20 kilometers east of Milk River, Alberta.

There will be a number of different geological targets for the various surveys. In the field camp, the student teams will be reminded of the basic theory behind the measurements be taught how to operate various geophysical equipment, carry out surveys with this equipment, and perform basic analyses and interpretation. Successful completion of the course requires reporting of the

results both in a written report and a poster presentation. We will likely have poster session sometime in the middle of the Fall Semester.

A number of different Geophysical measurements will be carried out including:

Potential Fields - Gravity and Magnetism

EM Methods - Ground Penetrating Radar, EM sounding, Electrical Resistivity Tomography

Surveying - Differential GPS plus simple GIS mapping, Total Station, Levelling

Seismology: Reflection Seismic Profiling, Refraction Seismic Profiling (P and S wave), Vertical Seismic Profiling

Geophysical Well Logging

Logistics:

1. **FEES:** The field school is the course **GEOPH 436** and you will need to register for it. In addition, the departmental course fees are to be determined soon (last year they were \$500 per student) to pay for food, accommodation, and transport. Invoices will be sent out to those students formally registered. If you have not registered for Geoph 436 please do so as soon as the registration opens on BearTracks. Please make out a check payable to the Department of Physics, this must reach us prior to leaving for field school.

2. REQUIRED FORMS:

- a. **IMMEDIATE** - Please fill out the [ONLINE FORM](#) and submit it to me so we can have an idea of who is coming and what we need to plan for.
- b. [Contact and Emergency Information](#) (this provides us with emergency contact and other information required for planning purposes, if you did not already do this for us please get it into us as soon as possible.
- c. [Field School Waiver for U of Alberta Students and Volunteers](#)
Print this out, complete and bring to departure - DO NOT SIGN AS WE MUST WITNESS IT YOUR SIGNATURE!
- d. [Field School Waiver for Non U of A Participants](#)
- e. [Waiver for Volunteers](#)

3. RULES and POLICIES for Geophysics Field School - please read these documents before we head to field school.

- a. [Department Field School Rules](#)
- b. [University Student Code of Behaviour](#)
- c. All of you are responsible to see to the cleanliness of the Hall at all times.

4. DRIVING: See detailed information at http://www.facilities.ualberta.ca/Operations_Maintenance/Driving.aspx

I hope that a few of the students will be able to drive the University vehicles for field school purposes. [This is involved](#) and consists of two aspects:

- a. **University Approval** consists of
 1. Complete '[Application for Driving Privileges and Consent to Obtain Abstract Form](#)' and return to

Dr. Schmitt, if University allows your driving record proceed to ...

2. Take approved Defensive Driving Course on campus (about 6 hours lecture). This is worth 3 demerits off! and will also help with your personal auto insurance. See the driving link to find information about signing up for this.
 3. Take Driver Evaluation on campus (a U of A driving test). This is done individually by appointment (see website above).
- b. **Provincial Law** requires that you have a Class 4 'for hire' license - essentially a license to transport small groups for hire. Details of this are [here](#) but it consists of:
1. Medical Examination (your Doctor may have the forms on hand but print out the [Government form](#) to play it safe)
 2. Written Examination and Eye Test (at a Registry)
 3. Class 4 Drivers Examination (need own vehicle), usually also at a registry, need to book ahead for this in busy Alberta!
 4. License Reclassification Fee
 5. Note that you will have to pay for this upfront but will then be reimbursed for the fees paid by the University Fleet Safety Office. You can find the reimbursement forms for this [here](#), please follow the instructions there!

5. **SCHEDULE:**

- a. **Departure:** Tentatively Sunday August 24 (this may be changed to Saturday the 23rd depending on student numbers): 8:00 am - Meet in front of the [new Geophysics Head House Field Facility](#) - immediately to the east of CCIS and south of ESB. You can reach this

by car from Saskatchewan Drive. We will have sufficient seats available. You are not allowed to take your own vehicle to field school unless there are some special circumstances. We can make arrangements to pick students up on the way to field school if along the path (Red Deer, Calgary, Lethbridge). We will stop along the way (likely Nanton at the burger stand if open) for lunch and also in Lethbridge to provision.

b. **Typical Day:** Will consist of meeting at 8:00 AM for a quick daily safety/organizational meeting. A TA will assist you to learn how to operate the equipment and provide an overview of the method. You will be responsible for making sure the data is properly recorded and will further make sure that it is archived in the evening. Time permitting we will take a 'Geological Boondoggle' later in the week.

c. **Return:** At the latest by Monday, September 1, 2012.

6. **HOUSING:** You will camp at the Allerston Community Hall. The Basement has a full kitchen and room for us to eat and to set up our computers and equipment. The upper level is a hardwood floor where many of the students can set up a mattress and sleeping bag. Some students bring their own tent to set up onsite if they wish. There is potable water at hall as well as male and female flush toilets. Additional porta-potties will be rented.

There are no shower facilities at the camp. We will arrange for the group to be at Writing on Stone Park at the end of the day before dinner in order to use the showers. These will require loonies and twonies.

7. **MEALS:** Teams will be assigned as primarily responsible for meal preparation and clean up. **HOWEVER**, everyone is

expected to pitch in when they can particularly with clean up after meals. This makes it easier for everyone.

a. Dinner Schedule

1. **Sunday - Frozen lasagnas, salad,**
2. **Monday - Barbecue Hamburgers, Sausages**
3. **Tuesday - Spaghetti Night**
4. **Wednesday - Burritos**
5. **Thursday - Chili & Rice**
6. **Friday - Steaks**
7. **Saturday - Clean the fridge hash**

b. **Breakfast** - assortment of cereals, bagels, toast, fruit, juice, etc.

c. **Lunches** - Make your own sandwiches, chips, cookies, fruit, etc.

d. **Snacks** - Some cookies onhand but you may want to bring your own special snacks and softdrinks.

e. **Provisioning:** We will stop in Lethbridge to provision our victuals on the way down. You will be broken into groups and given assignments of things to get for our shopping spree. The meals are included in your course fee but you will need to buy extra snacks and drinks.

f. Let us know if there are any dietary restrictions in advance so we can plan.

8. Checklist of things to bring

a. Sleeping bag and mattress (plus your own tent if you want)

b. Sufficient clothes for one week, you will not have time or access to laundry. Also, this is Alberta and while we expect the temperatures to be high with low humidity it can rain and even freeze at this time of year. So, come prepared. Include a swimsuit.

c. Good walking/hiking boots or, better, work boots

d. Light pair of working gloves

- e. Set of inside shoes or sandals
- f. Hat, Sunscreen, Sunglasses
- g. Portable water bottle.
- h. Bug spray
- i. Some pens/pencils/notebook
- j. Your laptop if you wish for making calculations (no internet!)
- k. Your cellphone - there are two towers visible from the Hall but we may be out of coverage area in some parts of the field school. We will want your cellphone number to provide to the group for safety reasons.
- l. A bright and shiny face ☺ and disposition.
- m. Musical instruments, cards, cameras, etc.

9. DO NOT BRING

- a. Drugs or Alcohol
- b. Weapons
- c. Fireworks or similar
- d. Dishes or Cutlery (lots at the Hall)
- e. Crabbiness ☹

10. Other Considerations and Safety

- a. All of the equipment but particularly the gravimeter and the differential GPS are very expensive. You must handle all of this equipment as if your life depended on it not being damaged. The instructors will help you initially so that you know how to use the equipment properly.
- b. The students must keep in mind at all times how to carry out their experiments as safely as possible. This will include:
 - 1. Wearing your assigned safety jacket
 - 2. Taking care along the roads in particular.
 - 3. Not allowed to use earbuds during the day, you must be able to hear.
 - 4. We are operating in farming country during harvest. Please respect everyone you see, these are my neighbors

and friends. Further, all of our materials for flagging, etc. must be cleaned up prior to departure.

5. Littering is not allowed and could result in expulsion. As well, the community hall must be cleaner when we leave than when we came. I expect you to use your own common sense, we don't want to be unwelcome in the future as this is a great site to carry out a field school because of the mixture of sedimentary, igneous, and environmental geologic targets.
6. **SMOKING** will be allowed **only** at the base camp, there is a **very real and dangerous** fire hazard at this time of year.
7. Drinking and driving is not allowed and will result in immediate expulsion. We will discuss restrictions on alcohol.
8. Bringing your own vehicle is discouraged. You will not be allowed to use your own vehicle during the field school if you bring it.
9. We do not leave the field school until all data have been appropriately archived - this means that we start recording it safely on day 1 and this will be part of your responsibility at the field school.
10. We meet at 8:00 am sharp after breakfast every morning for a quick discussion and assignment of responsibilities. We should meet again after the evening meal as some work will often continue late (especially gravity). Time and weather pending we hope to go out to the east to see some interesting geological formations.
11. **Finally, watch out for rattle snakes!**