



UNIVERSITY OF CALGARY

DEPARTMENT OF GEOSCIENCE COURSE OUTLINE

1. **Course:** GLGY 537, Advanced Field Methods

Lecture Sections:

B01: August 27 2014 – September 07 2014 Location: Grande Cache, Alberta

Dr. S. Hubbard, Office: ES 266, Ph. 403-220-6236, shubbard@ucalgary.ca, Office Hours: N/A

Geoscience Department ES 118, 403-220-5841, geoscience.ucalgary.ca, geosci@ucalgary.ca

2. **Prerequisites:** Geology 435, 443, and 461. A minimum grade of “B” is required in Geology 435. See also Geology [Course Descriptions](#) of the University Calendar.

3. **Grading:** The University policy on grading and related matters is described sections [F.1](#) and [F.2](#) of the online University Calendar. In determining the overall grade in the course the following weights will be used:

Participation & field books	10%
Field Assignments	20%
Outcrop test	30%
Final Assignment	40%

Each piece of work (e.g. lecture and lab exams, lab assignments, project) submitted by the student will be assigned a percentage score. The student’s average percentage score for the various components listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade. The conversion between course percentage and letter grade is given below.

Letter Grade	Percent	Letter Grade	Percent
A	92-100	C	65-68
A-	88-91	C-	61-64
B+	84-87	D+	56-60
B	79-83	D	53-55
B-	74-78	D-	50-52
C+	69-73	F	0-49

4. **Missed Components of Term Work:** The regulations of the Faculty of Science pertaining to this matter are found in the Faculty of Science area of the Calendar in [Section 3.6](#). It is the student's responsibility to familiarize himself/herself with these regulations. See also [Section E.6](#) of the University Calendar

5. **Course Materials:** *No text required; all other material provided by instructor*

6. **Approved Mandatory and Optional Course Supplemental Fees:** See Group Studies site for class.

7. **OTHER IMPORTANT INFORMATION FOR STUDENTS:**

(a) **Academic Misconduct:** (cheating, plagiarism, or any other form) is a very serious offence that will be dealt with rigorously in all cases. A single offence may lead to disciplinary probation or suspension or expulsion. The Faculty of Science follows a zero tolerance policy regarding dishonesty. Please read the sections of the University Calendar under [Section K](#). Student Misconduct to inform yourself of definitions, processes and penalties

- (b) **Assembly Points:** In case of emergency during class time, be sure to FAMILIARIZE YOURSELF with the information on [assembly points](#).
- (c) **Academic Accommodation Policy:** Students with documentable disabilities are referred to the following links: [Calendar entry on students with disabilities](#) and [Student Accessibility Services](#).
- (d) **Safewalk:** Campus Security will escort individuals day or night (<http://www.ucalgary.ca/security/safewalk/>). Call 220-5333 for assistance. Use any campus phone, emergency phone or the yellow phones located at most parking lot pay booths.
- (e) **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). As one consequence, students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information see also <http://www.ucalgary.ca/secretariat/privacy>.
- (f) **Student Union Information:** [VP Academic](#) Phone: 220-3911 Email: suvpaca@ucalgary.ca.
SU Faculty Rep. Phone: 220-3913 Email: sciencerep@su.ucalgary.ca; [Student Ombudsman](#)
- (g) **Internet and Electronic Device Information:** You can assume that in all classes that you attend, your cell phone should be turned off unless instructed otherwise. Also, communication with other individuals, via laptop computers, Blackberries or other devices connectable to the Internet is not allowed in class time unless specifically permitted by the instructor. If you violate this policy you may be asked to leave the classroom. Repeated abuse may result in a charge of misconduct.
- (h) At the University of Calgary, feedback provided by students through the Universal Student Ratings of Instruction (USRI) survey provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses (www.ucalgary.ca/usri). Your responses make a difference - please participate in USRI Surveys.

Department Approval: ORIGINAL SIGNED

Date: August 25 2014

Associate Dean's Approval for
Alternate final examination arrangements: ORIGINAL SIGNED

Date: August 25 2014

Geology 537 – Course Description and Tentative Itinerary

Dr. Steve Hubbard

Location:

Grande Cache, Alberta: The field school will take place almost entirely within 15 km of the Grande Cache town site. We will visit the Grande Cache Coal operation during our school.

We will stay at a hotel in Grande Cache for the duration of the field school. See Group Studies website for additional information.

Dates of Travel and Study:

August 27 – Safety meeting and drive to Grande Cache (~8 hour drive)

August 28-Sept. 6 – Various exercises in and around Grande Cache

September 7 – Return to Calgary

September 26 – Final Assignment due

Group Work:

Students will work in groups of 3, as assigned by the instructor on the first day. Much of the work will be graded as a group, but there will be a number of places where individual effort will be factored into the grading scheme (e.g., participation, field book quality, outcrop test, etc.). We will go over this early in the field school so everyone is fully aware of the grading procedure and can aim to do as well as possible with it in mind.

Field School Scope

Exercises for this field school will focus on oil and gas industry applications. Stratigraphic methods including sequence stratigraphy, sedimentological analysis and structural geology will be important components of the school, and outcrop results will be tied to data from gas-bearing strata in the nearby subsurface. For this reason, it was strongly recommended that students come with a strong background in petrophysics and wireline logging. Glgy 449 (Petrophysical Methods) should have been taken prior to enrolling in this field school section, and if it wasn't, be sure to do some research on the topic before coming on the trip. It is expected that you come with a basic understanding of wireline logs, with a deeper knowledge about how we use them to predict grain-size trends (gamma-ray tool most critical for us).

What You Need to Bring

- Sturdy boots!! You will need good support for your feet and ankles – plus, it tends to rain a lot in Grande Cache so water resistant boots are strongly recommended (leather is great, Gore Tex boots can work too – fabric covered boots could mean a long week for you!)
- Rain gear. As mentioned, Grande Cache tends to be really rainy.... If you don't have good rain gear, you will get wet and miserable (yet we'll need to work on!). There is a place to buy gear in Grande Cache, but it is quite expensive! I strongly recommend rain pants, and you can certainly get by with inexpensive waterproof pants – if you're only spending \$20-30, you can get waterproof pants that don't breath. Don't buy nylon pants that will just get saturated.
- Field books. Since it is a wet place, it is required that you purchase the hard-bound yellow "Rite-In-the-Rain" books. We will use them a lot, so buy the thick version available at the book store (it's got a proper binding, not the thin notepad variety). If you have one, bring an extra book as I'm not sure if we can buy extras in Grande Cache.
- Grain size cards and hand lens. You'll be measuring lots of grain sizes, so come prepared. I'd bring two or three grain size cards as they tend to get lost or blow away in the wind... Also bring some mechanical pencils, rulers and pencil crayons. We will be working on a regional geology map also, so any other tools you like to use for that should be taken along also. A large (legal-sized) clipboard will also be a nice thing to have.
- Be aware that food is not cheap in Grande Cache, and unfortunately we do not have kitchenettes in our room. There is a grocery store across from our hotel, but many meals will be at restaurants.
- I'll update you about other things to bring if need be.