



# UNIVERSITY OF CALGARY

## DEPARTMENT OF GEOSCIENCE COURSE OUTLINE FALL 2017

1. **Course:** GLGY 699.03, Advanced Petroleum Field School

Lab Section B03: August 21-September 1, 2017 – Grande Cache, AB

Lecture Section 03: September 11-October 15, 2017

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

Geoscience Department ES 118, 403-220-5184, [geoscience.ucalgary.ca](http://geoscience.ucalgary.ca), [geoscience@ucalgary.ca](mailto:geoscience@ucalgary.ca)

2. **Prerequisites:** Consent of the Department. See section 3.5.C in the Faculty of Science section of the online Calendar ([www.ucalgary.ca/pubs/calendar/current/sc-3-5.html](http://www.ucalgary.ca/pubs/calendar/current/sc-3-5.html))

**Notes:** This course occurs in rugged field conditions and varying weather, for which participants must be prepared and equipped. Students will require consent of the department to drop this course.

Please Note: July 7, 2017 is the last day for registration and changes of registration in all summer GLGY field schools.

3. **Grading:** The University policy on grading and related matters is described in 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	50%
Outcrop test	30%
Term Report	10%

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+	96-100	C+	69-73
A	92-95	C	65-68
A-	88-91	C-	61-64
B+	84-87	D+	56-60
B	79-83	D	50-55
B-	74-78	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. **Scheduled out-of-class activities:** A Safety Briefing will be held prior to departure on August 21. Aside from the briefing, classes take place off-campus, in the area of Grande Cache, Alberta.

**REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY.** If you have a clash with this out-of-class-time-activity, please inform your instructor as soon as possible so that alternative arrangements may be made for you.

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

7. **Examination Policy:** There will be no written Exams in this course; see point 3., above. Students should also read the Calendar, [Section G](#), on Examinations.
8. **Approved Mandatory and Optional Course Supplemental Fees:** A supplementary fee will be assessed to cover additional costs associated with this course.
9. **Writing across the curriculum statement:** The quality of the student's writing will be a factor in the evaluation of student work. See also [Section E.2](#) of the University Calendar.

**10. 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: Students with Disabilities: <http://www.ucalgary.ca/pubs/calendar/current/b-1.html> and Student Accessibility Services: <http://www.ucalgary.ca/access/>
- (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: 403 220-3911 Email: [suypaca@ucalgary.ca](mailto:suypaca@ucalgary.ca)  
SU Faculty Rep. Phone: 403 220-3913 Email: [science1@su.ucalgary.ca](mailto:science1@su.ucalgary.ca), [science2@su.ucalgary.ca](mailto:science2@su.ucalgary.ca)  
and [science3@su.ucalgary.ca](mailto:science3@su.ucalgary.ca);  
Student Ombuds Office: 403-220-6420 Email: [ombuds@ucalgary.ca](mailto:ombuds@ucalgary.ca); <http://ucalgary.ca/provost/students/ombuds>
- (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) **U.S.R.I.:** 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](http://www.ucalgary.ca/usri)). Your responses make a difference – please participate in USRI Surveys.

Department Approval: ORIGINAL SIGNED

Date: August 15, 2017

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

Date: August 17, 2017

## Geology 699-03 – 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.

### Dates of Travel and Study:

*August 21 – Safety Meeting*

*August 21 – Drive to Grande Cache (~8 hour drive)*

*August 22-31 – Various exercises in and around Grande Cache*

*September 1 – Return to Calgary*

*October 2 – Term report due*

### Group Work:

Students will work in groups of 2-3, 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. A term report will be assigned at the end of the field-based visit to Grande Cache, which will be an independent study.

### 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. 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 note-pad 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.