

UNIVERSITY OF CALGARY
DEPARTMENT OF GEOSCIENCE
COURSE OUTLINE

1. Course: GEOLOGY 377 – PETROLEUM ENGINEERING GEOLOGY

Lecture Sections:	L01	TR	12:30-13:45	ST 055	WINTER 2014
Laboratory Sections	B01	T	14:00-16:50	ES 002C	
	B02	T	17:00-19:50	ES 002C	

Instructor: Rob Taerum ES 150 rltaerum@ucalgary.ca
TA: Heather Bain ES 263 habain@ucalgary.ca

Recommended Textbooks: Gluyas & Swarbrick, Petroleum Geoscience, 2004; any Introductory to Physical Geology Textbook
 The course website contains handouts for labs, lectures, as well as other resource material that you will find useful.

Geoscience Department ES 118; (403) 220-5841; geoscience.ucalgary.ca

2. ANTIREQUISITE: Credit for both Geology 377 and Geography 201 will not be allowed.

NOTE: This course is restricted to engineering students.

See section 3.5.C in the Faculty of Science section of the online Calendar (<http://www.ucalgary.ca/pubs/calendar/current/sc-3-5.html>)

3. **GRADING:** The University policy on grading and related matters is described in “Academic Regulations, sections F.1 and F.2” of the online University Calendar (<http://www.ucalgary.ca/pubs/calendar/current/f-1.html> and <http://www.ucalgary.ca/pubs/calendar/current/f-2.html>) In determining the overall grade in the course the following weights will be used:

Laboratory Assignments (10)	30%	(due when indicated)
Lecture Midterm I	25%	(75 minutes, Feb 25 , in your scheduled lecture period)
Lecture Midterm II	25%	(75 minutes, Mar 27 , in your scheduled lecture period)
Term Paper	20%	(due Friday, Apr 11, 2014 @ 3:00pm)

Each piece of work (laboratory assignments, lecture midterms or term paper) 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 grade points and letter grades is given below.

Letter Grade	Percent	Letter Grade	Percent
A+	95-100	C+	64-<68
A	89-<95	C	60-<64
A-	84-<89	C-	56-<60
B+	78-<84	D	50-<56
B	73-<78	F	0-<50
B-	68-<73		

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: <http://www.ucalgary.ca/pubs/calendar/current/sc-3-6.html>. It is the student's responsibility to familiarize himself/herself with these regulations. See also <http://www.ucalgary.ca/pubs/calendar/current/e-3.html>.

5. Dates and times of class exercises held outside of class hours: None

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. **EXAMINATION POLICY:** No electronic or written aids (eg. cell phones, tablets, computers, PDAs, notes, textbooks) will be allowed during writing of any exams. Non-programmable calculators will be permitted to answer quantitative questions on exams, if applicable, and permission to do this will be clearly indicated on the examination paper.

Students should also read the Calendar, Section G, on Examinations: <http://www.ucalgary.ca/pubs/calendar/current/g.html>.

7. In this course, the quality of the student's writing in laboratory reports will be a factor in the evaluation of those reports. See also <http://www.ucalgary.ca/pubs/calendar/current/e-2.html>.

8. 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 K. Student Misconduct (<http://www.ucalgary.ca/pubs/calendar/current/k.html>) 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 at <http://www.ucalgary.ca/emergencyplan/assemblypoints>.**
- (c) **ACADEMIC ACCOMMODATION POLICY.** Students with documentable disabilities are referred to the following links: Calendar entry on students with disabilities: <http://www.ucalgary.ca/pubs/calendar/current/b-1.html>
Student Accessibility Services: 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:** 220-3911 **Email:** suypaca@ucalgary.ca.
SU Faculty Rep. **Phone:** 220-3913 **Email:** sciencerep@su.ucalgary.ca Website <http://www.su.ucalgary.ca/home/contact.html>.
Student Ombudsman: www.ucalgary.ca/provost/students/ombuds; ombuds@ucalgary.ca 220-6420
- (g) **INTERNET and ELECTRONIC COMMUNICATION DEVICE Information.** You can assume that in all classes that you attend, **your cell phone should be turned off.** 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.

Tentative Schedule

GEOLOGY 377 Winter 2014 tentative schedule		
<u>Date</u>	<u>Day</u>	<u>Lecture</u>
9-Jan	Thurs	Introduction to Petroleum Engineering Geology
14-Jan	Tues	Plate Tectonics
14-Jan	<i>Tues</i>	<i>Lab 1: Topo Maps and Well Locations</i>
16-Jan	Thurs	Rocks and Minerals
21-Jan	Tues	Rocks and Minerals
21-Jan	<i>Tues</i>	<i>Lab 2: Minerals and Rocks</i>
23-Jan	Thurs	Sedimentary Rocks, Stratigraphy & Basins
28-Jan	Tues	Sedimentary Rocks, Stratigraphy & Basins
28-Jan	<i>Tues</i>	<i>Lab 3A: Sedimentary Rocks</i>
30-Jan	Thurs	Depositional Environments
4-Feb	Tues	Porosity, Permeability, Fluids & Diagenesis
4-Feb	<i>Tues</i>	<i>Lab 3B: Sedimentary Core Analysis</i>
6-Feb	Thurs	Well Logs
11-Feb	Tues	Well Logs
11-Feb	<i>Tues</i>	<i>Lab 4: Litho-Por-Perm of Countess Field Sandstones I</i>
13-Feb	Thurs	Petroleum Systems
18-Feb	Tues	Reading Week
18-Feb	<i>Tues</i>	<i>Reading Week</i>
20-Feb	Thurs	Reading Week
25-Feb	Tues	<i>LECTURE EXAMINATION I - 25%</i>
25-Feb	<i>Tues</i>	<i>Lab 5: Litho-Por-Perm of Countess Field Sandstones II</i>
27-Feb	Thurs	Frontier Exploration
4-Mar	Tues	Frontier Exploration
4-Mar	<i>Tues</i>	<i>Lab 6: Mapping and Correlation I</i>
6-Mar	Thurs	Exploitation
11-Mar	Tues	Exploitation
11-Mar	<i>Tues</i>	<i>Lab 7: Mapping and Correlation II</i>
13-Mar	Thurs	Development
18-Mar	Tues	Development
18-Mar	<i>Tues</i>	<i>Lab 8: Geophysical Imaging I</i>
20-Mar	Thurs	Reservoir Characterization
25-Mar	Tues	Reservoir Characterization
25-Mar	<i>Tues</i>	<i>Lab 9: Geophysical Imaging II</i>
27-Mar	Thurs	<i>LECTURE EXAMINATION II - 25%</i>
1-Apr	Tues	Geophysical Imaging
1-Apr	<i>Tues</i>	<i>Lab 10: Geophysical Imaging III</i>
3-Apr	Thurs	Case Studies I
8-Apr	Tues	Case Studies II
8-Apr	<i>Tues</i>	<i>Case Studies III</i>
10-Apr	Thurs	Case Studies IV