

UNIVERSITY OF CALGARY
DEPARTMENT OF GEOSCIENCE
COURSE OUTLINE

1. Course: GEOLOGY 341 – STRUCTURAL GEOLOGY

Lecture Sections: L01 MWF 10:00-10:50 CHC 119 WINTER 2014

Instructor(s): Dr. B. Guest ES 524A 220-8093 bguest@ucalgary.ca

GLGY 341 L01 (Winter 2014) - Structural Geology <https://d2l.ucalgary.ca/d2l/home/16196>

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

2. PREREQUISITE: Geology 201, Geology 202 or 203, Mathematics 251 or 249 or 281 or Applied Math 217

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:

Tophat Monacle in class participation and correctness	5%
Lab Assignments	5%
Lab Midterm Test	20% (Feb. 25, 26, and 27 th)
Lecture Midterm Test	15% (March 7 2014)
Cumulative Lab Final	35% (April 8, 9 and 10 th)
Cumulative Lecture Final Examination	25% (To be scheduled by the Registrar)

Each piece of work (assignment, laboratory report, midterm test or final examination) 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, **bearing in mind that an F grade will result if the student does not pass component both the Lab and Lecture components.**

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. TAs and the instructor will be available in ES142 from 9am to 4 pm on every Friday
Instructor will be available for consultation every Monday from 11 to 1 pm

Department Approval: ORIGINAL SIGNED Date: January 23 2014

6. **EXAMINATION POLICY:** No electronic or written aids (eg. cell phones, tablets, computers, PDAs,) will be allowed during writing of any lecture 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.

Lab exams will be open book and open notes

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

7. Writing is not evaluated in the labs.

9. 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.

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GEOLOGY 341
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TERM: Winter 2014

PREREQUISITE(S): Geology 201, Geology 202 or 203, Mathematics 251 or 249 or 281 or Applied Math 217

LECTURER(S): Dr. B. Guest ES 524A 220-8093 bguest@ucalgary.ca

LECTURES: L01 MWF 10:00-10:50 CHC 119

LABS :	B01-B04	T	08 :00, 11 :00, 14 :00, 17 :00	ES 149
	B05/B08	R	08 :00, 11 :00, 14 :00, 17 :00	ES 149
	B09/B10	W	14 :00, 17 :00	ES 149

TEXT: Marshak and Mitra and Davis, Reynolds and Kluth

RESERVE READING ROOM: ES149 all day Friday

MARK DISTRIBUTION: A. Composition of Final Grade

Tophat Monacle in class participation and correctness	5%
Lab Assignments	5%
Lab Midterm Test	20% (Feb. 25, 26, and 27 th)
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Students who are absent from the midterm exam or final laboratory exam because of illness or other unforeseen circumstances may be granted an excused absence by the Course Coordinator (midterm exam) or Lab Coordinator (final laboratory exam) upon presentation of adequate documentation (a completed Physician/Counsellor Report form <http://www.ucalgary.ca/registrar/PDFs/physcoun.pdf> for illness; equivalent documentation for other circumstances). There will be no “make-up” examinations for excused absences. The weight assigned to the midterm examination will be transferred to the final examination.

Similarly, students who are unable to submit laboratory reports or assignments on time because of similar circumstances will be required to submit the same type of documentation to the Lab Coordinator in order to be considered for a time extension.

B. Final Exam

There will be a final examination scheduled by the Registrar's Office.

C. Components of Course for Which a Passing Grade is Essential

Students must achieve a passing grade (minimum of D) on both the lecture portion of the course (average of the midterm and final exams) and the laboratory portion of the course to qualify for a passing grade overall.

D. Grading Scheme

A+	94-100
A	88-94
A-	83-88
B+	78-83
B	73-78
B-	69-73
C+	65-69
C	61-65
C-	56-61
D	50-56
F	0-50

Lecture Schedule

Week	Lecture topic	Mon. lecture and Lab topic
1	Intro and Intro to structures	Strike and dip, Maps, Planes, lines
2	Strain is Deformation	Structure contours
3	Stress the Driver of Deformation	Thickness calculations
4	Stress and Rheology – deformation style	Mohr's Circle
5	Intro to Stereonets	Stereographic projection
6	Reading week	Reading week
7	Rheology and Deformation Mechanisms	Lab midterm
8	Joints and Fractures – Deformation types	Folds and the Stereonet
9	Faults and Midterm	Displacement calculations
10	Faults – Deformation types	Failure envelopes
11	Folds – Deformation types	Balanced cross--- sections
12	Folds – Deformation types	Balanced cross--- sections
13	Fault and Fold interactions	Lab final
14	Foliations - lineations – Deformation types	
15	Progressive deformation (Monday only)	