



COURSE OUTLINE

1. **Course:** GLGY 445, Structural Geology - Fall 2020

Lecture 01: TR 15:30 - 16:45 - Online

Instructor	Email	Phone	Office	Hours
Dr Eva Enkelmann	eva.enkelmann@ucalgary.ca	403 220-5852	ES 518	By Appointment

Online Delivery Details:

Some aspects of this course are being offered in real-time via scheduled meeting times. For those aspects you are required to be online at the same time.

Lectures - asynchronous:

Students are expected to read the assigned textbook chapter and watch mini videos on specific topics from the reading assignment.

Mon 8:00 AM-Tue 8:00 PM: Weekly online quizzes will be available each week on D2L for formative assessment on the reading assignment.

Mon 8:00 AM-Wed 11:59 PM: Students are expected to post questions from the assigned reading and provide answers to other students' questions on the discussion board. I will monitor the discussion and comment/verify the peer discussions.

Mon 8:00AM-Fri 5:00 PM: Weekly group assignments will be conducted each week. Assignments are submitted online via D2L at the end of the week.

Lectures - synchronous:

Thu 3:30 PM-4:50 PM: Zoom Happy Hour. Weekly reading peer discussion questions, online quiz results, and early submissions of group projects will guide the discussion based Zoom class.

Labs - asynchronous:

Tue 7:00 AM: Weekly lab assignments will be conducted each week. Assignments are submitted online via D2L on the following week.

Students will revise their lab assignments after the key is posted online and submit the corrected version the following week.

Labs - synchronous

Teaching assistants will be online via Zoom during the first 2 hours of the lab section to answer questions regarding the lab assignments.

Group Assignments: Students will be assigned to groups at the beginning of the semester. Each group will sign up for a project/topic during the first week of classes. The group projects are due between week 4 and 12. More information on the group project is given in an extra document.

During regular school weekdays TA's and I will respond to email inquiries within 24 hours. Expect delayed responses on weekends and holidays.

Visual Course outline:

Student schedule	Mon	Tue	Wed	Thu	Fri
Lecture					
Reading assignment					
Watch mini video lectures					
Discussion board posting questions and answers					
Self-assessment on reading					
Work on your week project with your group (once a semester)					

Submit weekly group activities					5:00 PM
Submit material for week project in week before					5:00 PM
Zoom Happy Hour with EE (based on discussion board Q&A and self-assessment)				3:30-4:45 PM	
Lab					
Conducting lab assignment					
Submit lab assignment from previous week		7:00 AM			
Submit revised lab assignment from 2 weeks ago		7:00 AM			
Lab hour zoom meeting with TA		Lab hour			
Professor and TA schedule	Mon	Tue	Wed	Thu	Fri
TA grading lab assignments					
EE observing discussion board and verifying/commenting					
EE grading and providing feedback on group activities					
Synchronous zoom hours		TA		EE	

Days of week student can work on assignment	Days when professor/TA prepare classes and grade	Due date	Zoom meeting
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The students are expected to read the assigned weekly material and use the online quiz for self-assessment. After that the students are expected to use the discussion board to post and answer questions to help learning the material. The quiz results and the online discussion board will form the basis for the happy hour discussion on Thursday afternoon during a synchronous zoom meeting.

Guideline for using the Discussion Board and on the Group Project are provided on D2L.

Course Site:

D2L: GLGY 445 L01-(Fall 2020)-Structural Geology

Note: Students must use their U of C account for all course correspondence.

2. **Requisites:**

See section [3.5.C](#) in the Faculty of Science section of the online Calendar.

Prerequisite(s):

Geology 343.

Antirequisite(s):

Credit for Geology 445 and 341 will not be allowed.

3. **Grading:**

The University policy on grading and related matters is described in [F.1](#) and [F.2](#) of the online University Calendar.

In determining the overall grade in the course the following weights will be used:

Component(s)	Weighting %	Date
Weekly lab assignments	15%	Tuesdays 7:00 AM
Weekly Group activities	10%	Fridays 5:00 PM
Discussion board participation	5%	Mon-Wed
Group project	30%	Monday 7:00 AM of project week
Midterm exam D2L	15%	27.Oct, 3:30-4:45 PM, synchronous,
Final Oral Exam	25%	2-day time window during the final exam period

Weekly lab assignments: 15% (due Tuesdays 7:00 AM, via D2L, individual)

Weekly Group activities: 10% (due Fridays 5:00 PM via D2L, group)

Discussion board participation: 5% (Monday-Wednesday, online D2L)

Group project: 30% (due Monday 7:00 AM of the week scheduled for each group, first group 28 September)

Midterm: 15% (Tuesday 27. October (synchronous 3:30-4:45 PM), online exam via D2L, 45 minute exam plus 30 minutes (75 min. total) to account for technical issues*, individual)

Final: 25% (oral exam via Zoom, 2-day time window during the final exam period, 15 minutes per student*, individual)

***For any synchronous assessment, time will be adjusted for SAS students if needed. Accommodations for students will be done on a case-by-case basis.**

Each piece of work (reports, assignments, quizzes, midterm exam(s) or final examination) submitted by the student will be assigned a grade. The student's grade for each component 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 a percentage grade and letter grade is as follows.

	A+	A	A-	B+	B	B-	C+	C	C-	D+	D
Minimum % Required	95 %	90 %	85 %	80%	75%	70 %	66 %	62%	58%	54 %	50 %

4. Missed Components Of Term Work:

The university has suspended the requirement for students to provide evidence for absences. Please do not attend medical clinics for medical notes or Commissioners for Oaths for statutory declarations.

In the event that a student legitimately fails to submit any online assessment on time (e.g. due to illness etc...), please contact the course coordinator, or the course instructor if this course does not have a coordinator to arrange for a re-adjustment of a submission date. Absences not reported within 48 hours will not be accommodated. If an excused absence is approved, then the percentage weight of the legitimately missed assignment could also be pro-rated among the components of the course.

Labs run weekly on Tuesday and weekly lab assignments are given that make 15% of the final grade. Labs are due electronically by 7:00 AM on Tuesdays. A completion grade will be assigned (e.g. 0, 0.5, 1) and the lab will be immediately handed back.

The answer key will be posted Tuesday mornings. Students are responsible for correcting their

own lab assignment and corrections will be due the following week by 7:00 AM on Tuesdays. Corrections will be given a mark for completeness (e.g. 0, 0.5, 1). The grade for the lab assignment will be the product of the completion and the correction grades (e.g. $0.5 \times 1 = 0.5$).

There are weekly group activities, that will together count 10% of the final grade. Only one document is to be submitted per group per week no later than Friday 5:00 PM.

5. Scheduled Out-of-Class Activities:

There are no scheduled out of class activities for this course.

6. **Course Materials:**

Required Textbook(s):

Haakon Fossen, *Structural Geology 2nd edition*: Cambridge University Press.

In order to successfully engage in their learning experiences at the University of Calgary, students taking online, remote and blended courses are required to have reliable access to the following technology:

- A computer with a supported operating system, as well as the latest security, and malware updates;
- A current and updated web browser;
- Webcam/Camera (built-in or external);
- Microphone and speaker (built-in or external), or headset with microphone;
- Current antivirus and/or firewall software enabled;
- Stable internet connection.

For more information please refer to the UofC [ELearning](#) online website.

7. **Examination Policy:**

No aids are allowed on tests or examinations. Midterm and final exam needs to be conducted individually.

Students should also read the Calendar, [Section G](#), on Examinations.

8. **Approved Mandatory And Optional Course Supplemental Fees:**

There are no mandatory or optional course supplemental fees for this course.

9. **Writing Across The Curriculum Statement:**

For all components of the course, in any written work, the quality of the student's writing (language, spelling, grammar, presentation etc.) can be a factor in the evaluation of the work. See also Section [E.2](#) of the University Calendar.

10. **Human Studies Statement:**

Students will not participate as subjects or researchers in human studies.

See also [Section E.5](#) of the University Calendar.

11. **Reappraisal Of Grades:**

A student wishing a reappraisal, should first attempt to review the graded work with the Course coordinator/instructor or department offering the course. Students with sufficient academic grounds may request a reappraisal. Non-academic grounds are not relevant for grade reappraisals. Students should be aware that the grade being reappraised may be raised, lowered or remain the same. See [Section I.3](#) of the University Calendar.

- Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **ten business days** of either being notified about the mark, or of the item's return to the class. If the student is not satisfied with the outcome, the student shall submit the Reappraisal of Graded Term work form to the department in which the course is offered within 2 business days of receiving the decision from the instructor. The Department will arrange for a reappraisal of the work within the next ten business days. The reappraisal will only be considered if the student provides a detailed rationale that outlines where and for what reason an error is suspected. See sections [I.1](#) and [I.2](#) of the University Calendar
- Final Exam:** The student shall submit the request to Enrolment Services. See [Section I.3](#) of the University Calendar.

12. **Other Important Information For Students:**

- Mental Health** The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre, [Mental Health Services Website](#)) and the Campus Mental Health Strategy website ([Mental Health](#)).
- SU Wellness Services:** For more information, see www.ucalgary.ca/wellnesscentre or call [403-210-9355](tel:403-210-9355).

- c. **Sexual Violence:** The Sexual Violence Support Advocate, Carla Bertsch, can provide confidential support and information regarding sexual violence to all members of the university community. Carla can be reached by email (syva@ucalgary.ca) or phone at 403-220-2208. The complete University of Calgary policy on sexual violence can be viewed at (<https://www.ucalgary.ca/policies/files/policies/sexual-violence-policy.pdf>)
- d. **Misconduct:** 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. Examples of academic misconduct may include: submitting or presenting work as if it were the student's own work when it is not; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; collaborating in whole or in part without prior agreement of the instructor; borrowing experimental values from others without the instructor's approval; falsification/ fabrication of experimental values in a report. **These are only examples.**
- e. **Academic Accommodation Policy:** Students needing an accommodation because of a disability or medical condition should contact Student Accessibility Services in accordance with the procedure for accommodations for students with disabilities available at [procedure-for-accommodations-for-students-with-disabilities.pdf](#).
- Students needing an accommodation in relation to their coursework or to fulfill requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the Teaching Professor of the Department of Geoscience, Jennifer Cuthbertson by email cuthberj@ucalgary.ca or phone 403-220-4709. Religious accommodation requests relating to class, test or exam scheduling or absences must be submitted no later than **14 days** prior to the date in question. See [Section E.4](#) of the University Calendar.
- f. **Freedom of Information and Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPP). 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 [Legal Services](#) website.
- g. **Student Union Information:** [VP Academic](#), Phone: [403-220-3911](tel:403-220-3911) Email: suvpaca@ucalgary.ca. SU Faculty Rep., Phone: [403-220-3913](tel:403-220-3913) Email: sciencerep@su.ucalgary.ca. [Student Ombudsman](#), Email: ombuds@ucalgary.ca.
- h. **Surveys:** At the University of Calgary, feedback through the Universal Student Ratings of Instruction ([USRI](#)) survey and the Faculty of Science Teaching Feedback form provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses. Your responses make a difference - please participate in these surveys.
- i. **Copyright of Course Materials:** All course materials (including those posted on the course D2L site, a course website, or used in any teaching activity such as (but not limited to) examinations, quizzes, assignments, laboratory manuals, lecture slides or lecture materials and other course notes) are protected by law. These materials are for the sole use of students registered in this course and must not be redistributed. Sharing these materials with anyone else would be a breach of the terms and conditions governing student access to D2L, as well as a violation of the copyright in these materials, and may be pursued as a case of student academic or [non-academic misconduct](#), in addition to any other remedies available at law.

Course Outcomes:

- Describe the difference between stress and strain
- Calculate stress in a rock volume and distinguish between lithostatic, hydrostatic, and differential stress fields.
- Use Mohr diagrams to make predictions about the strain (faults and fractures) that will result from a given stress field.
- Explain the role that rheology plays in controlling deformation style and deformation rate, and explain the role of fluids in controlling rock strength and make failure predictions for stressed dry and wet systems.
- Draw the anatomy of the different classes of faults, folds and fractures, and describe the link between regional tectonic stress fields and brittle deformation styles; specifically, modes of faulting and folding, and analyze and interpret geologic maps and draw basic balanced geologic cross-sections.

Electronically Approved - Sep 18 2020 11:18

Department Approval

Electronically Approved - Sep 23 2020 09:40

Associate Dean's Approval