



COURSE OUTLINE

1. **Course:** GLGY 381, Sedimentary Rocks and Processes - Fall 2020

Lecture 01: MWF 09:00 - 09:50 - Online

Instructor	Email	Phone	Office	Hours
Dr Rodolfo Meyer	rmeyer@ucalgary.ca	403 210-7848	ES 110	Weekly office hours will be announced following consultation with the students.

Online Delivery Details:

This course is being offered online in real-time via scheduled meeting times, you are required to be online at the same time.

Regularly scheduled **Office Hours** for both Rudi (course instructor) and Daniela (TA) will be established in the 1st week of classes in consultation with the entire class. Aside from regularly scheduled office hours with the instructor(s), virtual appointments can be scheduled via email.

NOTE that overall the instructors will aim to respond to your email inquiries related to the course within 24 hours, except on weekends and holidays.

Both Lecture and Lab periods will be scheduled to run as synchronous classes.

Lectures (MWF 9:00-9:50am) will be presented as Zoom classes with live interaction made possible both verbally and as text entries into the Chat box. Lecture presentations will be posted beforehand on the Class Management System, d2L -see tentative schedule of lecture topics at the bottom of this outline

During regularly scheduled **Lab periods**, Thurs 8:00-10:50am (B01) and 11:00-1:50pm (B02), the TA and/or, at times, Rudi, will be connected with students in the class via Zoom to introduce the given lab exercise/assignment, communicating and working with the students on the required tasks, and respond to questions. Any given Lab Assignments will be posted beforehand on d2L.

Course Site:

D2L: GLGY 381 L01-(Fall 2020)-Sedimentary Rocks and Processes

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 201 and 202; and 3 units from Chemistry 201, 211, 203 or 213; and Physics 211 or 221.

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
Quiz 1	7	Oct 5
Quiz 2	7	Oct 30
Quiz 3	7	Nov 27
Lab Assignments (8 best out of 9)	19	approx. weekly
Lab Exam I	15	Oct 15
Lab Exam II	15	Dec 3
Final Exam	25	TBA by Registrar
TopHat Classroom participation	5	Dec 9

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 %	91 %	88 %	84%	79%	74 %	69 %	65%	61%	56 %	50 %

The Top Hat classroom response mark of 5% is based on participation only. Note that students don't have to be present for every question – a score of about 85% usually corresponds to a full mark. If you wish to opt-out of this mark the corresponding 5% will be added to the weight of the Final Exam.

To opt-out of TopHat marks students must inform the instructor via email by Friday Dec 4.

This course has a registrar scheduled final exam.

Three (3) short Quizzes, delivered via d2L, will be written synchronously during regularly scheduled lecture periods -see dates in grade weighting table, above. The quizzes focus on lecture and lab topics and are designed to take about 30-35 minutes to complete, hence allowing about 15-20 minutes extra time to accommodate any potential complications with accessibility to the exam related to hardware and/or software issues.

Lab Assignments will be due by 8am on the Monday following each Lab with the idea that instructors will be able to mark the assignments, and provide feedback, by the start of the next Lab. Lab Assignments will be submitted in d2L *-pdf file format required*.

Every Lab will have a Dropbox set-up for the purpose of assignment submission. NOTE that this means that you will have a Lab Assignment to complete every week of the semester except for weeks with Lab Exams (Oct 15, Dec 3) and during the Term break, Nov 12. The **grade for the Lab Assignments** will be the average of your best eight(8) marks out of the total of nine(9) Lab Assignments in the semester.

Two(2) Lab Exams, delivered via d2L, will run synchronously during regularly scheduled lab periods (Oct 15, Dec 3). The lab exams are designed to take about 2 hrs. to complete, hence allowing about 50 minutes extra time to accommodate any potential complications with accessibility to the exam related to hardware and/or software issues.

The **Final Exam**, delivered via d2L, will run synchronously for the entire class. It is designed to be a 2-hour exam for which up-to 50% extra time is scheduled to accommodate any potential complications with accessibility to the exam related to hardware and/or software issues. Hence, it will be scheduled by the Registrar as a 3-hour final exam.

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.

Lab Assignments will be due by 8am on the Monday following each Lab. Due dates can only be changed for legitimate reasons (e.g. illness or other justified conflict) with consent from the TA, who at times may consult with the course instructor. Any accommodations are decided on a case-by-case basis. Aside from the above, **late submissions of Lab Assignments are assigned a penalty of 25% per day, up to a maximum of 2 days (50%)**.

5. Scheduled Out-of-Class Activities:

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

6. Course Materials:

Required Textbook(s):

Sam Boggs, Jr., *Principles of Sedimentology and Stratigraphy*. Prentice Hall.

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. Exceptions to this rule will only apply upon explicit specifications from the instructor(s) of the course.

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.

- a. **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
- b. **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:**

- a. **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](#)).
- b. **SU Wellness Center:** 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](tel: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.

TOPICS SCHEDULE* — GLGY 381 Sedimentary Rocks and Processes — FALL 2020

* Subject to changes.

WEEK of:		LECTURES: MWF 09:00-09:50	TEXTBOOK READINGS	LABS: Thurs 8:00-10:50 and 11:00-1:50pm
1	Sept 7	1. Wed Sept 9: Introduction	Course Outline	NO LAB
		2. Fri Sept 11: Erosion, weathering, soils I	Ch.1: 3-12	
2	Sept 14	3. Mon Sept 14: Erosion, weathering, soils II	Ch.1 : 13-17	LAB 1 : Sedimentary texture and grain size
		4. Wed Sept 16: Sedimentary textures	Ch.3: 45-61	
		5. Fri Sept 18: Siliciclastic sed. rock classifications	Ch.5: 101-122	
3	Sept 21	6. Mon Sept 21: Fluid flow and sed. transport I	Ch.2 : 19-39	LAB 2 : Description and classification of siliciclastic rocks
		7. Wed Sept 23: Fluid flow and sed. transport II		
		8. Fri Sept 25: Sedimentary structures I	Ch.4: 65-97	

4	Sept 28	9. Mon Sept 28: Sedimentary structures II		LAB 3 : Erosional, depositional and post-depositional structures
		10. Wed Sept 30: Sedimentary structures III		
		11. Fri Oct 2: Carbonate rocks I	Ch 6. : 135-158	
5	Oct 5	12. Mon Oct 5: QUIZ 1		LAB 4 : Trace fossils
		13. Wed Oct 7: Carbonate rocks II		
		14. Fri Oct 9: Carbonate rocks III		
6	Oct 12	15. Mon Oct 12: HOLIDAY - NO CLASS		LAB EXAM I
		16. Wed Oct 14: Review of QUIZ 1		
		17. Fri Oct 16: Siliciclastic Diagenesis I	Ch.5 : 122-129	
7	Oct 19	18. Mon Oct 19: Siliciclastic Diagenesis II		LAB 5 : Carbonate sediments and rocks
		19. Wed Oct 21: Carbonate Diagenesis I	Ch. 6: 159-164	
		20. Fri Oct 23: Carbonate Diagenesis II		
8	Oct 26	21. Mon Oct 26: Depositional facies concepts	Ch.12: 346-348	LAB 6: Other chemical / biogenic rocks
		22. Wed Oct 28: Dep. Environment Case Study		
		23. Fri Oct 30: QUIZ 2		
9	Nov 2	24. Mon Nov 2: Terrestrial Environments: Fluvial	Ch. 8: 207-220	LAB 7: Facies analysis and interpretation of siliciclastic core
		25. Wed Nov 4: Marginal marine environ's: Deltas	Ch. 9: 247-259	
		26. Fri Nov 6: Lithostratigraphy	Ch. 12: 337-363	
10	Nov 9	TERM BREAK - NO CLASSES		NO LAB
11	Nov 16	27. Mon Nov 16: Review of QUIZ 2		LAB 8: Stratigraphy and Correlation of Sedimentary Units
		28. Wed Nov 18: Biostratigraphy	Ch. 14: 406-432	
		29. Fri Nov 20: Basin evolution/logs	Ch. 16: 463-478	
12	Nov 23	30. Mon Nov 23: Terrestrial env's: Lacustrine, eolian	Ch. 8: 220-234	LAB 9: Basin Analysis
		31. Wed Nov 25: Marginal marine: Beaches, estuaries	Ch. 9: 260-277	
		32. Fri Nov 27: QUIZ 3		
13	Nov 30	33. Mon Nov 30: Shoreline-to-offshore	Ch. 10: 280-292	LAB EXAM II
		34. Wed Dec 2: Deep-water deposition	Ch. 10: 292-305	
		35. Fri Dec 4: Genetic Stratigraphy	Ch. 13: 365-389	
14	Dec 7	36. Mon Dec 7: Genetic Strat. cont'd; Chronostrat.	Ch. 15: 449-458	NO LAB
		37. Wed Dec 9: TBA		

Course Outcomes:

- Identify and classify sedimentary rocks and their physical and chemical constituents
- Describe and explain the behavior of sedimentary particles in different fluid flow regimes.
- Identify organic and inorganic sedimentary structures and describe their inferred process of formation.
- Explain how variables associated with diagenesis alter packages of sediment, and how these alterations are predictive of resulting rock characteristics.
- Infer depositional environments when provided with a series of sedimentary deposits
- Appraise and assess the utility of various stratigraphic methodologies given a variety of sedimentary datasets.
- Use lithologic well data to produce a stratigraphic cross-section and associated regional depositional history

Electronically Approved - Sep 01 2020 09:54

Department Approval