



COURSE OUTLINE

1. **Course:** GLGY 337, Introduction to Geologic Field Methods - Summer 2021

Lab 04:

Instructor	Email	Phone	Office	Hours
Professor Charles Henderson	cmhender@ucalgary.ca	403 220-6170	ES 274	By appt
Dr. Jennifer Cuthbertson	cuthberj@ucalgary.ca	403 220-4709	ES 520	By Appointment

In Person Delivery Details:

The course is built around in-person geological activities carried-out outdoors at different locations within easy driving distance/time from Calgary. On the 1st day (Aug 9) field activities will be in Calgary, within walking distance from the UofC campus. On the last day (Aug 18) the students will work on finalizing the assignments from the previous days field activities. On all other days students and instructor and TA will leave from a parking lot next to the Earth Science Building to be driven by bus and a secondary support vehicle to the location selected for

geological field work. Correspondingly, in the afternoons or early evenings of the field days the entire class will arrive back on campus -see general itinerary below.

On some days we plan to return relatively early from the field work (by 3 or 4 pm) and on those afternoons the class will reconvene in a classroom in the Earth Science Bldg to work on presentation of the data and observations recorded in the field in the form of stratigraphic columns, geologic maps and/or cross-sections and brief reports. On other days we will return relatively late from the field work (6 or 7 pm) and we may only reconvene very briefly in a classroom to summarize progress made and plan upcoming activities.

Re-Entry Protocol for Labs and Classrooms:

To limit the spread of COVID-19 on campus, the University of Calgary has implemented an Instructional Space Re-Entry Protocol that must be followed. Details are found in the [Covid-19 Protocol for Class and Lab re-entry.pdf](#) document.

Course Site:

D2L: GLGY 337 B04-(Summer 2021)-Introduction to Geologic Field Methods

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

Most of the course will take place outdoors so students must come prepared for a range of weather conditions (e.g. hot, cold, wet). Students should also be prepared to hike on trails as well as on irregular, off-trail terrain, hence students should bring appropriate footwear, ideally hiking boots which protect your ankles better than hiking shoes or solid trail running shoes. On some days students will be on their feet nearly the entire time, but not cover great distances. For about half of the field days, students must be reasonably fit to walk or hike 3-5 kilometres during a given day on relatively flat or very low-sloped terrain. Days 8-9 (Aug 16 & 17) include short distances of hiking on relatively steep terrain implying that we will have segments where we walk slower and/or take more rests on our way to reach given rock outcrops.

A list of personal and geological items or equipment specifically needed for this course will be listed on the course d2L site. NOTE that a similar list is permanently posted on the Dept of Geoscience website, but it may omit some details that change from year-to-year e.g. equipment provided by the Dept of Geoscience or donated by the Association of Professional Engineers and Geoscientists of Alberta (APEGA).

2. **Requisites:**

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

Prerequisite(s):

Geology 333, 343, 381 and admission to programs in Geology or Geophysics Environmental Science (Geology concentration) or Natural Sciences (Geoscience concentration) and consent of the Department.

Note(s):

- a. This course occurs in rugged field conditions and varying weather, for which participants must be prepared and equipped. A supplementary fee will be assessed to cover additional costs associated with this course. Students will require consent of the department to drop this course.

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 %	Due Date
Stratigraphic Column at East Coulee, AB	10	* Aug 11
Stratigraphic column with brief interpretation at Hwy 1A, near Exshaw, AB	15	* Aug 13
Geologic Map and cross-section with brief description at Grotto Canyon, near Exshaw, AB	30	* Aug 16
Geologic Map, cross-section with brief description and geologic history, Hailstone Butte area	30	** Aug 18
Field notebook (marked during and after the end of the course)	10	
Active participation in the field	5	

* assignments due before boarding bus to leave for the field on that date

** assignments due at the end of the day.

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, one possible arrangement is that the percentage weight of the legitimately missed assignment could also be pro-rated among the components of the course. This option is at the discretion of the coordinator and may not be a viable option based on the design of this course.

5. Scheduled Out-of-Class Activities:

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

6. Course Materials:

Required Textbook(s):

Angela L. Coe, *Geological Field Techniques 2010*: Wiley-Blackwell.

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:

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

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

7. **Examination Policy:**

There will be no examinations in this class; the grade in the course is based on 'mini-project' type assignments based on data and observations collected at selected locations of geological interest.

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

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

Mandatory course supplemental fees are assessed for this course to cover the cost of transportation of the class from the UCalgary campus to various field locations, and back to campus.

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 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 (syasa@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 integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity. Research integrity, ethics, and principles of conduct are key to academic integrity. Members of our campus community are required to abide by our institutional [Code of Conduct](#) and promote academic integrity in upholding the University of Calgary's reputation of excellence. Some examples of academic misconduct include but are not limited to: posting course material to online platforms or file sharing without

the course instructor's consent; submitting or presenting work as if it were the student's own work; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; borrowing experimental values from others without the instructor's approval; falsification/fabrication of experimental values in a report. Please read the following to inform yourself more on academic integrity:

[Student Handbook on Academic Integrity](#)
[Student Academic Misconduct Policy](#) and [Procedure](#)
[Research Integrity Policy](#)

Additional information is available on the [Student Success Centre Academic Integrity page](#)

e. Academic Accommodation Policy:

It is the student's responsibility to request academic accommodations according to the University policies and procedures listed below. The student accommodation policy can be found at: <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Student-Accommodation-Policy.pdf>

Students needing an accommodation because of a disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities: <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Accommodation-for-Students-with-Disabilities-Procedure.pdf>.

Students needing an accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, by filling out the [Request for Academic Accommodation Form](#) and sending it to Jennifer Cuthbertson by email cuthberj@ucalgary.ca preferably 10 business days before the due date of an assessment or scheduled absence.

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.

DAY	FIELD LOCATION	DEPARTURE	ETA ON CAMPUS
1: Aug 9	ES 149; Varsity/Bowmont Park, Calgary	8:20 am	4:30 pm
2: Aug 10	East Coulee, near Drumheller, AB	7:45 am	6:00 pm
3: Aug 11	Old Highway 1A section, near Exshaw, AB	8:00 am	6:00 pm
4: Aug 12	Old Highway 1A section, near Exshaw, AB	8:00 am	4:00 pm
5: Aug 13	Grotto Mountain Canyon, near Exshaw, AB	8:00 am	6:00 pm
6: Aug 14	Grotto Mountain Canyon, near Exshaw, AB	8:00 am	5:00 pm
7: Aug 15	Grotto Mountain Canyon, near Exshaw, AB	8:00 am	4:00 pm
8: Aug 16	Hailstone Butte, SW of Longview, AB	7:45 am	7:30 pm
9: Aug 17	Hailstone Butte, SW of Longview, AB	7:45 am	7:30 pm
10: Aug 18	On campus and/or at home to finish Hailstone Butte assignment, Calgary	9:00 am	5:00 pm (or as needed)

Itinerary for B04 August 9-18, 2021

Course Outcomes:

- Locate themselves on a topographic map, and recognize the expression of landscape features on a topographic map.
- Operate a compass for successful navigation and orienteering.
- Describe, sketch, and interpret a rock outcrop using geologic terminology.
- Measure a stratigraphic section and construct a field log of the section, including description of rock units.
- Measure the orientation of planar and linear geologic features.
- Construct a geologic map that includes contacts, geologic symbols, and a legend.
- Construct a geologic cross-section based on data collected in the field.
- Recognize and describe a variety of surficial deposits and sedimentary, igneous, and metamorphic rocks in the field.
- Visualize in 3-D the geologic structures revealed by the cross section(s) both (virtually) above and below ground.

Electronically Approved - Aug 02 2021 11:51

Department Approval

Electronically Approved - Aug 05 2021 13:24

Associate Dean's Approval