



COURSE OUTLINE

1. **Course:** GLGY 431, Igneous Petrology - Fall 2020

Lecture 01: MWF 14:00 - 14:50 - Online

Instructor	Email	Phone	Office	Hours
Dr Rajeev Sasidharan Nair	mair@ucalgary.ca	403 220-4823	ES 152	By appointment

In Person Delivery Details:

The lab component of the course will be in-person. Students must follow social distancing protocols in the lab as well as the various sample handling procedures outlined to ensure minimal contact.

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.

The lecture materials will be delivered via zoom and Yuja.

Course Site:

D2L: GLGY 431 L01-(Fall 2020)-Igneous Petrology

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 323 and 333.

Antirequisite(s):

Credit for Geology 431 and either 443 or 531 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:

Weekly Labs	20%
Lab Final Exam (in-person)	25%
Lecture-Lab combined Midterm (Online, synchronous)	25%
	(Oct. 19, 2020; 5:30-7:30 p.m.)
Lecture Final Exam (Online; synchronous)	30%
	(Scheduled by the Registrar; synchronous)

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	92 %	87 %	82 %	78%	75%	70 %	67 %	63%	60%	55 %	50 %

Individual elements of the course (i.e. labs, assignments, exams) will be assigned a percentage score. Final

percentage grades for the overall course will be calculated based on the grade weighting scheme indicated above, and will be converted to letter grades

Students need to achieve a minimum of 50% in the lab components (weekly lab assignments + lab exams) and lecture components (lecture exams) separately to obtain a passing grade.

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.

5. Scheduled Out-of-Class Activities:

The following out of class activities are scheduled for this course.

Activity	Location	Date and Time	Duration
Lecture-Lab Midterm	online	Monday, October 19, 2020 at 5:30 pm	2 Hours

REGULARLY SCHEDULED CLASSES HAVE PRECEDENCE OVER ANY OUT-OF-CLASS-TIME-ACTIVITY. If you have a conflict with the out-of-class-time-activity, please contact your course coordinator/instructor no later than **14 days prior** to the date of the out-of-class activity so that alternative arrangements may be made.

6. Course Materials:

Required Textbook(s):

Winter, John, *Principles of Igneous and Metamorphic Petrology*. Prentice Hall.

Instructor will regularly use material from outside the textbook specified above to enhance student understanding. Students are expected to familiarize with this material out of textbook.

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:

The lab final exam will involve examination of minerals, rocks and thin sections. This will be a closed book exam with certain specified resources permitted

The lecture final exam and the lecture-lab combined midterm will be open book and will test conceptual knowledge. "Open book" means that students may refer to the current class/lab notes and text book during these exams. Students cannot interact with one another or consult a third party to find answers/solutions. Students also cannot use web browsers to find answers/solutions.

All exams (except the lab final exam) will be synchronous. The lecture final exam and lecture-lab midterm are designed to take 1 hr and 20 minutes to complete but students will be given 2 hrs to write to account for technical and other issues while writing.

Accommodations for SAS students and other students will be done on a case-by-case basis.

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

8. Approved Mandatory And Optional Course Supplemental Fees:

There are no supplementary 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:

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 (FOIP). 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:

- Classify and name a variety of igneous rocks based on mineralogy and texture.
- Interpret igneous textures and structures in the context of geologic processes.
- Characterize igneous rocks in terms of field relations.
- Describe the differences between ultramafic, mafic, intermediate and felsic magma types, in terms of physical and chemical properties.
- Explain the processes involved in magmatic differentiation.
- Compare and contrast magmatism at different plate tectonic settings, in terms of rock types, magmatic processes, geochemistry, and volcanic hazards.
- Express the role of igneous processes in the formation and evolution of the Earth's crust and mantle
- Construct and interpret major and trace element diagrams, as well as isochron and phase equilibria diagrams, for igneous rocks.

Electronically Approved - Aug 17 2020 22:51

Department Approval

Electronically Approved - Aug 31 2020 11:32

Associate Dean's Approval