

ERTH 3207 Metamorphic Petrology and Processes - Syllabus

Course description

ERTH 3207 Metamorphic Petrology and Processes [0.5 credit]

Genesis of metamorphic rocks as determined from field, petrographic and geochemical data.

Lectures two hours a week, a laboratory three hours a week and a field excursion.

Precludes additional credit for ERTH 3202 (no longer offered).

Prerequisite: ERTH 2104.

Learning outcomes

1. Introduce the important methods of a metamorphic geologist.
2. Introduce known facts and recent hypotheses about the evolution of metamorphic rocks.
3. Introduce some of the important analytical methods used in modern metamorphic petrology.
4. Learn how metamorphic rocks are classified and named.
5. Identify common metamorphic minerals and rocks in hand specimen and thin section.
6. Reinforce some of the key thermodynamic variables and their relevance to metamorphic petrology.
7. Learn how to use metamorphic petrology to better understand the past tectonic behaviour of Earth's crust.

Times and locations

All lectures will be held in-person (Herzberg Labs, room 3120) each Wednesday from 4:05 - 5:55 pm, and the lab sections will be held in-person (Herzberg Labs, room 2120) Fridays from 8:35 - 11:25 am. Students cannot attend a different lab time/day/section but must attend the section that they have registered in. All students must follow lab protocols.

Teaching team

Instructor: Fred Gaidies

Office hours: By appointment via email

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Teaching assistant: Thereza Yogi

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Teaching assistant: Kimberly Trebus

Office hours: TBA

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Textbooks

Yardley, B., Warren, C., 2021. *An introduction to metamorphic petrology*. Cambridge. This is a good introduction to metamorphic petrology. This textbook is **recommended** for the course.

Best, M. G., 2003. *Igneous and metamorphic petrology*. Blackwell. This very good introductory book to both igneous and metamorphic petrology is **recommended** for the course.

Nesse WD (2012) Introduction to Optical Mineralogy. Oxford University Press. This is an excellent text on the optical properties of minerals, and you will be needing it in all your labs. Therefore, this text is **required** for this course.

Online resources

This document is available on Brightspace as are many others relevant to the course. Frequently, visit the homepage of this course for updates with respect to the course plan. The course plan contains information on lecture and laboratory topics.

The course website contains most of the laboratory assignments, and you will have to read them carefully before the respective labs and lectures. Lecture notes will be made available after each lecture.

Course requirements

It is recommended that students attend all lectures and laboratories. Arriving late to class is distracting to students, professor, and teaching assistants.

Students are encouraged to complete and hand in all their lab assignments (8) for feedback and consultation. However, only six comprehensive labs (Labs 2-7) must be completed and handed in at the end of the time allotted (1-2 weeks depending on lab). These six labs will be part of the final grade (see below).

Both, the lab component of the course and the final exam must be passed in order to pass the course.

There will be two exams during the course: (1) A two-hour lab exam, and (2) a final exam during the official examination period (to be scheduled by the registrar, 3 hours) that will primarily focus on lecture material.

Grading

07%	Lab 2
12%	Lab 3
07%	Lab 4
07%	Lab 5
07%	Lab 6
10%	Lab 7
25%	Lab exam
25%	Final exam

Academic Integrity

It is your responsibility to review Carleton's policy on Academic Integrity - Section 10.1 of the Calendar: <https://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/academic-integrity-and-offenses-of-conduct/#academic-integrity-policy>

Plagiarism

The instructor is required to report all incidents (or suspected incidents) of plagiarism to the Dean. All work handed in must be your own work. Plagiarism and cheating are viewed as being particularly serious and the sanctions imposed are accordingly severe. Students are expected to familiar-

ize themselves with and follow the Carleton University Student Academic Integrity Policy. The Policy is strictly enforced and is binding on all students. Plagiarism and cheating – presenting another's ideas, arguments, words or images as your own, using unauthorized material, misrepresentation, fabricating or misrepresenting research data, unauthorized co-operation or collaboration or completing work for another student – weaken the quality of the graduate degree. Academic dishonesty in any form will not be tolerated. Students who infringe the Policy may be subject to one of several penalties including: expulsion; suspension from all studies at Carleton; suspension from full-time studies; a refusal of permission to continue or to register in a specific degree program; academic probation; or a grade of Failure in the course.

Academic Accommodations

You may need special arrangements to meet your academic obligations during the term. For an accommodation request, the necessary processes are described here: <https://students.carleton.ca/course-outline/>. Carleton has temporarily suspended the need for doctor's notes or medical certificates for accommodation requests related to COVID-19. Students may complete the self-declaration form available here: <https://carleton.ca/registrar/wp-content/uploads/self-declaration.pdf>. Students should connect directly with the teaching team to discuss required accommodations arising from the COVID-19 situation.

Special Information for Pandemic Measures

If you feel ill or exhibit COVID-19 symptoms while in class, please leave campus immediately, self-isolate, and complete the [symptom reporting tool](#). No food or drinks are permitted in any classrooms or labs.

For the most recent information about Carleton's COVID-19 response and required measures, please see the [University's COVID-19 webpage](#) and review the [Frequently Asked Questions \(FAQs\)](#). Should you have additional questions after reviewing, please contact covidinfo@carleton.ca

Please note that failure to comply with University policies and mandatory public health requirements, and endangering the safety of others are considered misconduct under the [Student Rights and Responsibilities Policy](#).