

ERTH: Mineral Deposits Winter 2019 Course Syllabus

Lectures: Monday 11:30 - 1:30 HP 3120

Labs: (two sections) AO1 Tuesday 11:30 - 2:30 HP 2120
note: first lab Jan 8 AO2 Thursday 8:30 - 11:30 HP 2120

Course objective:

To be able to recognize and name ores and associated alteration and host rocks representing the principal types of ore deposits mined in Canada, to understand their genesis and exploration models, and to be conversant with the legal and regulatory framework for mining.

Instructor: Jim Mungall

HP 2205 Tel 613 520 2600 ext 1394
jamesmungall@cunet.carleton.ca

TAs:

Charlene Duffett, Sebastien Dyer, Yingzhou Li

Office Hours: by arrangement with the professor. Send me an email to arrange a meeting. TAs will set up individual office hours.

Texts: Treatise on Geochemistry (2nd Ed), Volume 13: Geochemistry of Mineral Deposits, S.D. Scott Ed. (e-book available from Carleton University Libraries for free download).

Ore Microscopy and Ore Petrography, 2nd Ed, by James R Craig and David J Vaughan. Wiley and Sons, Inc, 1994. Free download from MSA:

http://www.minsocam.org/msa/OpenAccess_publications/Craig_Vaughan/

Thin Section Microscopy 2nd Ed, by Michael M. Raith, Peter Raase, and Juergen Reinhardt ISBN 978-3-00-037671-9 (PDF)

Free download from MSA:

http://www.minsocam.org/msa/OpenAccess_publications/Thin_Sctn_Mcrscopy_2_prnt_eng.pdf

Course notes: I will put my .ppt lectures onto the course website for you. They are mostly images, supplemented by notes in the files themselves. Come to class.

Marking:

Laboratory assignments: 12 (5% each)	60%
Lab test April 2 or 4 in the scheduled lab session:	15%
Final examination: 3 hours, TBA	25%

Academic offences:

<https://carleton.ca/senate/wp-content/uploads/Academic-Integrity-Policy1.pdf>

I have vigorously pursued academic offenses in the past and intend to continue to when circumstances warrant it. The following passages have been excerpted from the calendar of Carleton University, and will be applied in this course to ensure that students get credit where credit is due.

Excerpt from the Academic Integrity Policy:

"Students are responsible for being aware of and demonstrating behaviour that is honest and ethical in their academic work. Such behaviour includes:

- Following the expectations articulated by instructors for referencing sources of information and for group work.
- Submitting original work, citing sources fully, and respecting the authorship of others.
- Asking for clarification of expectations as necessary. Students who are in any doubt as to whether an action on their part may be viewed as a violation of the standards of academic integrity should ask for clarification.
- Identifying situations that may reasonably lead to a violation of this policy.
- Preventing their work from being used by others, e.g. protecting access to computer files, etc.
- Adhering to the principles of academic integrity when conducting and reporting research."

"Examples of plagiarism include, but are not limited to:

- submitting a take-home examination, essay, laboratory report or other assignment written, in whole or in part, by someone else;
- using ideas or direct, verbatim quotations, paraphrased material, algorithms, formulae, scientific or mathematical concepts, or ideas without appropriate acknowledgement in any academic assignment;
- using another's data or research findings
- submitting a computer program developed in whole or in part by someone else, with or without modifications, as one's own'
- failing to acknowledge sources through the use of proper citations when using another's work and/or failing to use quotation marks"

You may often be working on lab assignments together and you are strongly encouraged to work together to understand what you are looking at in the lab. However when you write and submit your lab reports, all of the text and all of the images that you submit must be your own or must be cited (e.g., thin section scan given to you by the TA). Even with proper attribution, use of copied images is strongly discouraged except for those that are distributed to you by the instructors for the express purpose of including in your lab.

This means: don't copy and don't cheat.

LEARNING OUTCOMES

By the end of the course, each successful student will acquire the skills and knowledge sets in the lecture and laboratory sessions allowing them to:

- be able to identify most of the important ore minerals mined in Canada both in hand specimen and in the ore microscope.
- be able to identify and categorize mineralized rocks and associated alteration styles representative of most of the principal economic mineral deposits of Canada.
- demonstrate knowledge of the mode of formation of most of the principal Canadian ore deposit types.
- demonstrate familiarity with the main exploration methods employed to find each of the principal Canadian ore deposit types.
- be able to describe in broad terms the methods used in ore beneficiation and in the assessment of economic potential of ore deposits.
- demonstrate familiarity with the legal and regulatory framework that applies to exploration, development, and marketing of mineral deposits in Canada.

STUDENT ACCOMMODATIONS

Examinations and Assignments

Students with conflicts for any examination must have a note from an employer or a medical certificate (see below) in order to **write the exam** at another date or submit assigned work late. Unless caused by illness, all conflicts **MUST** be reported to the instructor **PRIOR** to the exam date. If a lab is missed, a student may make it up in another lab section during that week without requiring a medical certificate. In the case of a serious illness, see <http://carleton.ca/registrar/special-requests/deferral/> for the rules concerning deferral of an exam or assignment.

No outside study aids (calculators, notes) will be allowed for any exams. Any materials required for the exams will be provided by the instructor.

Missed or late lab exercises:

Missed lab exercises, and late hand-ins will **only** be excused for cases in which the absence was entirely beyond your control (e.g., medical reasons, personal affliction, bereavement), and only if the proper documentation is submitted. For medical exemption you must use (or furnish the information demanded in) the official Carleton University Medical Certificate which must be filled out by a doctor **on the day of the missed work or test**. Documentation of the reason for your absence must be submitted to the instructor within three working days of the absence or missed work. Under most circumstances you should be able to make up for missed scheduled labs by coming in later during the week before the assignment is due.

https://carleton.ca/registrar/wp-content/uploads/med_cert.pdf

Excerpt from the Carleton University Calendar:

"Students who claim illness, injury or other extraordinary circumstances beyond their control as a reason for missed term work are held responsible for immediately informing the instructor concerned and for making alternate arrangements with the instructor and in all cases this must occur no later than three (3.0) working days after the term work was due. The alternate arrangement must be made before the last day of classes in the term as published in the academic schedule. Normally, any deferred term work will be completed by the last day of term. In all cases, formative evaluations providing feedback to the student should be replaced with formative evaluations. In the event the altered due date must extend beyond the last day of classes in the term, the instructor will assign a grade of zero for the work not submitted and submit the student's earned grade accordingly; the instructor may submit a change of grade at a later date. Term work cannot be deferred by the Registrar."

There will be no make-up work, but if your documentation is accepted then the original assignment will be accepted late, on a date to be arranged with the instructor.

Requests for Academic Accommodation

You may need special arrangements to meet your academic obligations during the term. For an accommodation request, the processes are as follows:

Pregnancy obligation

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf

Religious obligation

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf

Academic Accommodations for Students with Disabilities

If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or pmc@carleton.ca for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. carleton.ca/pmc

Survivors of Sexual Violence

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and is survivors are

supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: carleton.ca/sexual-violence-support

Accommodation for Student Activities

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>

For more information on academic accommodation, please contact the departmental administrator or visit: students.carleton.ca/course-outline