

Earth Sciences 3370A, Metallogeny I: Ore Petrology 0.5 Course

2 lecture hours, Tuesday and Thursday 12:30 to 1:30 Room 9 CHB

3 laboratory hours, Tuesday 2:30 to 5:30, 6:00-9:00 Room 1065 B&G

Prerequisites: Earth Sciences 2200a/b and 2206a/b, or Written Permission from the Dean

Instructor: Prof. Norman A. Duke, nduke @ uwo.ca, 519-661-3199, Off. 1081 B&G

Description: A survey course introducing the broad field of mineral deposit geology and the importance of mineral resources. Deposit classification is considered within the context of global theories of ore genesis. Various methods of ore petrology are related to specific ore types. Laboratory work focuses on reflected light microscopy in the practical study of ore suites. Regular attendance and timely completion of assignments expected.

Syllabus: Lecture Topics	Laboratory Exercises
1) Course objectives and logistics	
2) Historical perspective on the importance of mining	- Mineral economics*
3) Methods of ore petrology	- Hand specimen mineral ID
4) Opaque mineral microscopy	- The ore microscope
5) Ore geochemistry, synthetic systems	- Mineral paragenesis
6) Hydrothermal systems, fluid inclusion research	
7) Stable and radiogenic isotopic systems	
8) Bulk rock analytical techniques	
9) Metallogenic cycles, epochs, provinces	
10) Genetic classification of mineral deposits	- Test on ore mineral ID
Mantle Plume/Cratonic Rift Settings	
11) Magmatic ferro-alloy deposits of the Bushveld Complex	
12) Magmatic hematite-ilmenite deposits of anorthosite massifs	
13) Magmatic Kiruna-type apatite-magnetite deposits	-Magmatic oxides*
14) Magmatic deposits of nickel-copper-PGE	-Magmatic sulphides*
15) The Sudbury Igneous Complex	
Continental Shelf/Seafloor Ophiolite and Island Arc Settings	
16) Podiform chromite and Cyprus-type massive sulphide deposits	
17) Noranda-type massive sulphide deposits	-Cu-Zn sulphides*
18) Kuroko-type massive sulphide deposits	- Pb-Zn-Ag sulphides*
19) Algoman-type iron formations	-Mississippi Valley Pb-Zn*
20) Superior-type iron formations	-Banded iron formations*
21) Rapitan-Clinton-Minette type iron formations	
Collisional Orogenic Settings	
22) Archean lode gold deposits	-Lode gold deposits*
23) Distribution of lode gold in the Superior Province	
24) Distribution of lode gold in the Slave Province	
25) Lode gold deposits hosted in Algoman iron formations	
26) Summation of initial, early, and middle stages of the Metallogenic Cycle	
Course Materials: Reading/Laboratory materials provided at cost (25\$)	
Evaluation: Laboratory- mineral test 10% due early October, 8 labs* 40%	
Theory- assignment 10% due late November, final exam 40%	
Scholastic Offences (Web Site:www.uwo.ca/univsec/handbook/appeals/scholoff.pdf)	

Accommodation for Medical Illness - Undergraduate Students

See also the Attendance Policies in the Examinations Section.

POLICY ON ACCOMMODATION FOR MEDICAL ILLNESS - UNDERGRADUATE STUDENTS

(S.08-#) This policy replaces the Policy on Medical Excuse Slips (see below), effective September 1, 2008.

The University recognizes that a student's ability to meet his/her academic responsibilities may, on occasion, be impaired by medical illness. Illness may be acute (short term), or it may be chronic (long term), or chronic with acute episodes. The University further recognizes that medical situations are deeply personal and respects the need for privacy and confidentiality in these matters. However, in order to ensure fairness and consistency for all students, academic accommodation for work representing 10% or more of the student's overall grade in the course shall be granted only in those cases where there is documentation indicating that the student was seriously affected by illness and could not reasonably be expected to meet his/her academic responsibilities.

Documentation shall be submitted, as soon as possible, to the appropriate Dean's office (the Office of the Dean of the student's Faculty of registration/home Faculty) together with a request for relief specifying the nature of the accommodation being requested. These documents will be retained in the student's file, and will be held in confidence in accordance with the University's Official Student Record Information Privacy Policy [<http://www.uwo.ca/univsec/handbook/general/privacy.pdf>]. Once the petition and supporting documents have been received and assessed, appropriate academic accommodation shall be determined by the Dean's Office in consultation with the student's instructor(s). Academic accommodation may include extension of deadlines, waiver of attendance requirements for classes/labs/tutorials, arranging Special Exams or Incompletes, re-weighting course requirements, or granting late withdrawals without academic penalty. Academic accommodation shall be granted only where the documentation indicates that the onset, duration and severity of the illness are such that the student could not reasonably be expected to complete his/her academic responsibilities. (Note – it will not be sufficient to provide documentation indicating simply that the student “was seen for a medical reason” or “was ill.”)

Whenever possible, students who require academic accommodation should provide notification and documentation in advance of due dates, examinations, etc. Students must follow up with their professors and their Academic Counselling office in a timely manner.

Documentation from Family Physicians and Walk-In Clinics

A UWO Student Medical Certificate (SMC) is required where a student is seeking academic accommodation. This documentation should be obtained at the time of the initial consultation with the physician or walk-in clinic. An SMC can be downloaded at: [website to be determined](#). Hard copies are available from Academic Counselling in the Faculties.

Documentation from Student Health Services

Students obtaining documentation from Student Health Services should sign a “release of information.” This form authorizes Student Health Services to provide information to the student's home Faculty. Release of information forms are available from, and can be arranged through, the student's home Faculty Academic Counselling service.