

Course Syllabus

1070 A/B Introduction to the Geology and Resources of Earth

Course Type: Online

Prerequisite: None

Antirequisite: ES1022A/B and ES1081A/B

Instructor: Dr. Natalie Pietrzak-Renaud, npietrz@uwo.ca

Teaching Assistants: Ryan Kahue, rkahue@uwo.ca

Course Description

This course is an introduction to geology and covers rock forming minerals and rock forming processes: emphasis is placed on how mineral and hydrocarbon resources develop. Deposit types presented include layered mafic intrusions, diamonds, placer, oil, gas, coal, salt and aggregate; metamorphic and hydrothermal deposits such as VMS, vein, stratabound and hydrothermal overprinting relating to ore textures. Investigations will include the development of these deposits in terms of plate tectonics including brittle and ductile crust scale processes; the occurrence of these deposits through geologic time; absolute and relative age dating; relationships observable in the field and mapping techniques; mining terminology and techniques.

Course Outline

Unit 1: Introduction to Geology

Unit 2: Rocks and Minerals

Unit 3: Plate Tectonics

Unit 4: Igneous Rocks and Processes

Unit 5: Weathering and Sedimentary Processes

Unit 6: Sedimentary Environments (Streams and Mass Wasting)

Unit 7: Sedimentary Environments (Coastlines and Deserts)

Unit 8: Groundwater and Glaciation

Unit 9: Metamorphism and Deformation

Unit 10: Economic Ore Deposits

Unit 11: Age Dating, Fossils and Geologic Mapping

Unit 12: Mining and Exploration

Recommended Course Material

Textbook (Available at the UWO Bookstore or Western Used Bookstore)

Tarbuck, E.J., Lutgens, F.K., Tsujita, C.J., and Hicock, S., 2012. Earth: An Introduction to Physical Geology (3rd edition). Pearson Education Canada

Other Material (Available at the UWO Bookstore)

Rock and Mineral Kit

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Evaluation

Discussions	10%
Quizzes	10%
Project 1	10%
Project 2/Field Trip	10%
Midterm	30%
Final Exam	30%

Each and every student is evaluated by the breakdown stated above. This evaluation breakdown is non-negotiable. Therefore, make-up assignments, reweighing of marks, discounting low assignment marks or any other proposed changes to this evaluation will not be considered.

Important Course Information

Examination Dates

Midterm	March 1st, 2014
Final Exam Period	April 11-30th, 2014

(You must keep your schedule open for this time period until a final date has been set by Western Administration!). Electronic devices will not be allowed during these examinations.

Discussions (Opens –Closes)

Open refers to the date that the two discussions are available for you to access and contribute your thoughts. The closing date refers to the date at which the discussion is removed from course site. All students must contribute a minimum of four times per question. No contributions are graded after the closing date. ***Students that do not contribute to the discussion during the open period will receive a grade of zero.***

Question 1: Opens January 6th - Closes March 2nd

Question 2: Opens March 1st – Closes April 11th

Quizzes

All Quizzes will be available for the start of the course to its completion before the final exam. There may be unlimited attempts however *the first attempt will be the only attempt graded*. All subsequent attempts are for your practice only. Any quizzes not completed by the closing date will receive a grade of zero.

Closing date for all quizzes: April 11th at 11:55 pm

Projects

You must complete and submit two independent study projects for this term. Information and instructions are provided on the course site.

Project 1: February 15th at 11:55 pm

Project 2: April 8th at 11:55 pm

Field Trip

A field trip may be offered for this course depending on location accessibility, timetabling etc. When a field trip is offered, spaces will be limited. Registration will be on a first come first serve basis. To register, all documents must be completed and submitted prior to the closing date specified. Any incomplete documentation will lead to the loss of a registered place and field trip permission being denied. Field trips are for interest only however, attendance for the duration of the trip and completion of a simple assignment during the field trip can be done in lieu of a Project 1 assignment. The field trip may be cancelled at any time by the instructor due to unforeseen issues.

Field Trip Date: March 15th or 22nd

Location: Oil Museum of Canada

Time: TBA

Forms due: **February 28th**

Please be aware that this trip may be cancelled or postponed due to bad weather, unsafe driving conditions or for unforeseen issues. If a cancellation occurs, an alternate assignment in lieu of project 2 will be assigned to students that signed up for this field trip.

Practice Exercises

Practice lab exercises 1 through 12 are available throughout the course. These exercises are not to be submitted for marks but are intended to be part of your course work as practice. You are responsible for all material presented in these practice exercises.

Late Penalties:

Any project or assignment submitted after the due date and time (yes, even one second after the set due date time) will be penalized 10% per day. These penalties are fair and consistent with other Earth Science courses at Western. These penalties are applied consistently to everyone and are non-negotiable. *No accommodation will be given for technical or other difficulties of any kind*, including but not limited to computer or Sakai submission issues.

The submission date and time will be judged based on the date and time Sakai records your submission. **Incomplete, blank, corrupt, incorrect file format or any other problem file will be considered a genuine submission.** Any material or file submitted to correct, replace or in some way supplement an previously submitted incomplete, blank, corrupt, or other problem file (regardless of the issue) will be considered the final submission and negate the previous submission(s). Therefore, the date and time of any late projects, corrections, replacement files, correct file format etc. submitted after the due date will be assessed late penalties according to the date and time the file submission has been recorded by Sakai, or the date and time it has entered the instructor's Western email inbox.

Cheating and Plagiarism:

Statement on Academic Offenses: Academic offenses are taken seriously. Students are directed to read the appropriate policy on academic offenses at: www.uwo.ca/univsec/handbook/appeals/scholoff.pdf. Students must produce all work including but not limited to: essays, assignments video footage and power point presentations. Proper referencing or quotations must be used when taking an idea or passage from another author. Cheating and plagiarism in any form is not accepted in this course. Any and all offences will be reported to the proper Western authorities. Please visit the Teaching Support Centre (TSC) at www.uwo.ca/tsc/resources/selected_teaching_topics/academic_integrity/ for further information.

Academic Accommodation:

Student's responsibilities in the event of a medical issue:

If you are unable to meet a course requirement due to illness or other serious circumstances, you must provide valid medical or other supporting documentation to the Dean's office as soon as possible and contact your instructor immediately. It is the student's responsibility to make alternative arrangements with their instructor once the

accommodation has been approved and the instructor has been informed. In the event of a missed final exam, a "Recommendation of Special Examination" form must be obtained from the Dean's Office immediately. For further information please see:

<http://www.uwo.ca/univsec/handbook/appeals/medical.pdf>

A student requiring academic accommodation due to illness, should use the Student Medical Certificate when visiting an off-campus medical facility or request a Records Release Form (located in the Dean's Office) for visits to Student Health Services. The form can be found here: https://studentservices.uwo.ca/secure/medical_document.pdf

Accessibility Statement: Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 661-2111 x. 82147 for any specific question regarding an accommodation.

Accommodation will not be given for circumstances that include, but are not limited to, working/employment issues, sports commitments or personal holidays/vacations unless approved by an Academic Counselor.

Support Services:

The Web sites for Registrarial Services (<http://www.registrar.uwo.ca>), and the same for affiliated university colleges when appropriate, and any appropriate Student Support Services (including the services provided by the USC listed here: <http://westernusc.ca/services/>) and the Student Development Services, should be provided for easy access.

Students who are in emotional/mental distress should refer to Mental Health@Western <http://www.uwo.ca/uwocom/mentalhealth/> for a complete list of options about how to obtain help.”

Other Important Information:

- 1) When taking an online course it is assumed that all participants are mature enough to handle self-directed learning. It is your responsibility to complete all the course requirements on time, learn the material, and asks questions for clarification.
- 2) Monitor the discussion board or any other announcement board regularly. A discussion board in this course is akin to attending lectures. Questions are asked and answered, announcements made and information distributed.
- 3) Your mark is based on the quality and correctness of your work. No consideration is given or marks awarded for the effort or time you put into any course work completed.