

# 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](mailto:npietrz@uwo.ca)

**Teaching Assistants:** TBA

### Course Description

If you have always wanted to know more about the wonders of our planet and how humans go about using Earth's resources, this course is for you. This course is an introduction to geology and resources of the Earth with a particular emphasis on mineral deposits. Utilizing a varied approach to the mode of delivery, this course covers two aspects of geology. The geological portion of the course covers the basic concepts of minerals and the three rock types; igneous, sedimentary and metamorphic. Broader concepts of plate tectonics, structural geology and how mineral deposits formed are also discussed. The resource part of the course introduces you to nonrenewable resources including oil, gas, metals and aggregates, and renewable resources such as water. Mining, mineral processing and environmental consideration related to mining activities are also introduced.

### Course Outline

Unit 1: Introduction to Geology and the Commodities Market

Unit 2: Minerals and Gemstones

Unit 3: Igneous Rocks

Unit 4: Weathering and Sedimentary Rocks

Unit 5: Sedimentary Environments

Unit 6: Metamorphic Rocks

Unit 7: Plate Tectonics and Geologic Time

Unit 8: Deformation and Structural Geology

Unit 9: Groundwater and Glaciation

Unit 10: Mineral Deposits and Petroleum Resources

Unit 11: Mining Exploration, Technical Studies and Mining

Unit 12: Mineral Processing and Environmental Considerations

## **Learning Outcomes:**

Upon completion of this course successful students will be able to:

- \* Identify several common rock forming minerals and several igneous, sedimentary and metamorphic rocks.
- \* Distinguish and explain processes that produce the three different rock types.
- \* Explain and illustrate the basic processes of plate tectonics and the concepts of relative dating.
- \* Apply knowledge of rock forming processes to rock formation within broad environmental settings.
- \* Integrate rock forming processes, plate tectonic processes and relative dating techniques to interpret simplified geological maps.
- \* Apply writing skills to pertinent social conscience issues related to geoscience discussions.

## **Required Course Material**

Rock and Mineral Kit (available at the Western Bookstore)

## **Evaluation**

Discussions	5 %
Quizzes	10%
Rock and Mineral Tests	10%
Project 1/Field Trip	15%
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. Do not request special consideration to satisfy an academic or other aspiration (i.e. entry into a program).***

## **Important Course Information**

### *Examination Dates*

Midterm	<b>June 16<sup>th</sup> at 9:00 am</b>
Make-Up Midterm	<b>June 21<sup>st</sup> at 7:00 pm</b>
Rock and Mineral Test:	<b>Must be completed by July 25<sup>th</sup></b>
Final Exam:	<b>July/August Examination Period</b>

Only one make up exam is scheduled for this course. The make up exam is for those students that could not attend the midterm exam *due to* medical reasons. Supporting documentation must be provided to the instructor or a UWO academic counsellor. Exam conflicts or other academic accommodations must be granted and brought to the attention of the instructor prior to the midterm exam date. The final exam time and date will be determined by the Registrar's office.

### *Attendance*

Attendance is not monitored in this course. However, ongoing dissemination of course information and other instructions will be posted on the General Discussion forum found in the Forums icon. Please post all your course questions in and monitor the General Discussion forum.

### *Discussion*

To participate in a discussion session a question or statement will be posted and you will be required to post at least twice. Please monitor the Forums section of the course to find the discussion questions. Participation in all discussion sessions is required to attain a mark for the Discussion portion of the course.

**Discussion 1 Forum Closing date: May 21<sup>th</sup>**

**Discussion 2 Forum Closing date: June 4<sup>th</sup>**

### *Quizzes*

All Quizzes will be available at the start of the course. The first 6 quizzes must be completed before the midterm exam and the last 6 quizzes must be completed before the final exam. **The first attempt will be the only attempt graded.** Any subsequent attempts are for your practice only. Any quizzes not completed by the closing dates will receive a grade of zero and will not be reopened.

**Closing date for quizzes 1 to 6: June 17<sup>th</sup>, 11:55 pm**

**Closing date for quizzes 7 through 12: July 25<sup>th</sup>, 11:55 pm**

### *Projects and field trips*

You must complete and submit one independent study project for this term or attend a field trip (if offered). Information and instructions for the project are provided on the course site. If offered, more information about the field trip, including the date, will be disseminated during the course on the Discussion Forum. If you complete a project you are required to submit a test slide complete with voice over to ensure that your completed project will work. Successful submission of a test slide will be included in the overall mark of your project.

**Test Slide Due: June 20<sup>th</sup>, 11:55 pm**

**Project Due: July 7<sup>th</sup>, 11:55 pm**

**Field Trip: July 8<sup>th</sup>, 1 - 4 pm**

### *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](http://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/](http://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](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 Counsellor.***

## **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) 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.
- 3) Your course marks *will not* be adjusted in any way to satisfy your academic or other aspirations (i.e. entry into a specific program).