



Earth Sciences 2220b: Environmental and Exploration Geophysics I Course Outline – Winter 2025

1. Course Information

ES2220b – Environmental and Exploration Geophysics I

List of Prerequisites: 0.5 course from Calculus 1000A/B or Calculus 1500A/B, Mathematics 1225A/B or equivalent (please refer to the UWO Calendar).

Unless you have either the requisites for this course or written special permission from your Dean's Designate (Department/Program Counsellors and Science Academic Advisors) to enroll in it, you may be removed from this course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the

Course Objectives and Learning Outcomes:

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

- describe and identify basic aspects of several exploration seismology methods;
- discriminate between geological and geophysical approaches to investigate the subsurface structure of the Earth;
- identify the key aspects of a typical workflow of the geophysical exploration methods comprising data acquisition, processing, and interpretation;
- describe the environmental impacts of exploration and consequences following large devastating earthquakes;
- apply the skills required to work with the scientific computer software Matlab.

Summary of Lecture Topics (*approximate and subject to change!*):

- Introduction and Outline. What is geophysics?
- Geophysical methods and data analysis.
- Waves, pulses, rays.

Plagiarism: *Students must write their essays and assignments in their own words. Whenever students take an idea, or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major academic offence (see Scholastic Offence Policy in the Western Academic Calendar).*

General information about missed coursework

Students must familiarize themselves with the *University Policy on Academic Consideration – Undergraduate Students in First Entry Programs* posted on the Academic Calendar:
https://www.uwo.ca/univsec/pdf/academic_policies/appeals/academic_consideration_Sep24.pdf,

This policy does not apply to requests for Academic Consideration submitted for **attempted or completed work**, whether online or in person.

The policy also does not apply to students experiencing longer-term impacts on their academic responsibilities. These students should consult [Accessible Education](#).

For procedures on how to submit Academic Consideration requests, please see the information posted on the Office of the Registrar's webpage:

accepted with no penalty, provided that adequate documentation is given. With a few exceptions, only SI units should be used to report any physical quantities.

When a student misses the Final Exam and their Academic Consideration has been granted, they will be allowed to write the Special Examination (the name given by the University to a makeup Final Exam). See the Academic Calendar for details (under [Special Examinations](#)), especially for those who miss multiple final exams within one examination period.

6. Additional Statements

Religious Accommodation

When conflicts with a religious holiday that requires an absence from the University or prohibits certain activities, students should request an accommodation for their absence in writing to the course instructor and/or the Academic Advising office of their Faculty of Registration. This notice should be made as early as possible but not later than two weeks prior to the writing or the examination (or one week prior to the writing of the test).

Please visit the Diversity Calendars posted on our university's EDID website for the recognized religious holidays:

<https://www.edi.uwo.ca>.

Accommodation Policies

Students with disabilities are encouraged to contact Accessible Education, which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The policy on Academic Accommodation for Students with Disabilities can be found at:

purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).

Support Services