

Earth Sciences 4450Y – Regional Field Geology

Instructors: Dr. Burns Cheadle and Dr. Phil McCausland

A ten-day field trip to study aspects of the Appalachian Orogen in Nova Scotia.

1st September to 10th September, 2014.

Prerequisites: Earth Sciences 3350Y and registration in the Honors Specialization in Geology, or the Honors Geology or Honors Environmental Geoscience Programs for Professional Registration, or permission of the Department. Students must inform the Department of their intention to register in the course prior to May 1st and register prior to August 15th. Partial cost of the field course must be borne by the student, and is payable to the Department by May 1st 2014. The cost per student is \$405 in 2014, and will increase by \$15 every year thereafter.

Unless you have either the requisites for this course or written special permission from your Dean 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 necessary requisites.

Travel & Accommodation. Flights between London and Halifax, with minivan / car transport between localities. Motel accommodation & restaurant meals; picnic lunches. Students pay for breakfast and supper; Department pays for picnic lunches.

Aims of the course:

By the end of this course, students will have the ability to record geological field observations in a comprehensive, accurate and legible form using standard methods including illustration of geological characteristics, effective note taking, measurement of stratigraphic sections, and summary outcrop mapping. Observations will be integrated continuously to develop an appreciation for the sequence of events that produced the regional geology as recorded in outcrops.

Syllabus

Currently this Field School runs in Nova Scotia. The trip occupies nine working days, with a half day travel at each end. The main points of the trip are as follows:

In **Maritime Canada**, the trip involves rocks that record the Opening of Iapetus Ocean, represented by the passive margin succession of the Meguma Group, and including various island arc volcano-sedimentary successions. The Acadian Orogeny is represented by major granite plutons (South Mountain Batholith) and attendant thermal metamorphic aureole. A post-orogenic Mississippian strike-slip basin is represented by evaporites and limestones of the Windsor Group, and by lacustrine deposits of the Horton Group. A Pennsylvanian strike-slip basin is represented by the Joggins Formation. Late Triassic rift basins related to early opening of the Atlantic Ocean are represented by playa-lacustrine-braided river deposits of the Scots Bay, Wolfville and Blomidon formations. Earliest Jurassic rift-related basaltic volcanism is represented by several hundred metres of stacked lava flows of the North Mountain Basalt, seen north of Wolfville N.S. and at Five Islands, N.S. The Minas Geofracture (plate-scale strike-slip fault zone) that separates the N American (Avalon Terrane) from Gondwana (Meguma Terrane) is seen near Parrsboro N.S., including exotic mega-blocks of deep crustal rocks.

Every stop (23 in total) involves observation and description of the rocks on hand, followed by local and 'big-picture' interpretations. Mapping and/or stratigraphic exercises are

conducted in at least three localities, involving structural/sedimentary relationships, graphic logging and intrusive-host rock mapping.

Evaluation:

- 10% Attitude & Participation
- 30% Quality of Field Notes
- 20% Field Mapping Exercises
- 40% Final Exam (2 hours, held in Amherst, NS on the last morning).

Text. A custom-prepared field guide will be issued.

University Policies:

1) *Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site:*

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

2) *Unless you have either the requisites for this course or written special permission from your Academic Counselling Unit 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 necessary prerequisites.*

3) *All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the 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>).*

4) *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 Academic Counselling Unit 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 Academic Counselling Unit 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 Academic Counselling Unit) 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.