Environmental Geoscience

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Program Coordinator

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Associated Faculty

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Environmental geoscience integrates the disciplines of geology, biology, chemistry, and geography to study the interaction between human activities and earth systems. Housed in the recently established Trent School of the Environment, students will receive strong foundational training in geoscience, and develop breadth of knowledge in the other sciences. Students will further their knowledge and experience with a capstone experiential learning opportunity in fourth year, and a compulsory field methods course will provide opportunities to apply and master geoscience techniques.

Notes

- The curriculum of the Environmental Geoscience program satisfies the educational requirements for professional certification with the Association of Professional Geoscientists of Ontario.
- For information on individual courses see Calendar entries for Biology, Chemistry, Computing & Information Systems, Environmental & Resource Science/Studies, Geography, Mathematics, and Physics & Astronomy.

Bachelor of Science Program in Environmental Geoscience

- In addition to the program requirements listed below, students must satisfy the University degree requirements (see p. 15).

The single-major Honours program. 20.0 credits including the following 15.5 credits:

- 2.5 EGEO credits consisting of EGEO 2001H (or 3000H), 3001H, 3002H, 3003H (or 2000H), and 4000H*
- 0.5 BIOL credit consisting of BIOL 1020H
- 1.5 CHEM credits consisting of CHEM 1000H, 1010H, and 2620H
- 1.5 ERSC credits consisting of ERSC 1010H, 2230H, and 2240H
- 5.5 GEOG credits consisting of GEOG 1040H, 2080H, 2090H, 2401H, 2460H, 2540H, 3020H, 3410H, 3540H, 3560H, and 3590H
- 1.0 PHYS credit consisting of PHYS 1001H and 1002H
- 0.5 COIS credit from COIS 1020H or 1520H
- 0.5 MATH credit from MATH 1005H or 1110H
- 0.5 MATH credit from MATH 1120H or 1550H
- 0.5 GEOG credit from GEOG 3510H or 3520H
- 0.5 GEOG credit from GEOG 3530H or 4080H
- 0.5 credit from CHEM-ERSC 3600H or ERSC-GEOG-BIOL 4060H

*EGEO 4020D may be substituted for EGEO 4000H

Please consult the academic timetable for information on courses that will be offered in 2018–2019, including when they will be scheduled.

» **EGEO-GEOG 2001H: Earth Materials (Sc)**
Introduces students to the study of rocks and minerals, including their description, classification, and origin. Rocks and minerals of environmental (e.g., human health) and economic importance are emphasized. Practical laboratory exercises enable students to become proficient at identifying rocks and minerals using physical and optical properties. Prerequisite: GEOG 1040H or permission of instructor. Excludes EGEO-GEOG 3000H.

» **EGEO 3001H: Applied and Environmental Geophysics (Sc)**
Geophysics is the study of geologic properties, processes and phenomena using non-destructive physical and mathematical methods, including reflection and refraction seismology, gravity and magnetics, and electrical and electromagnetic methods. This course emphasizes how geophysical techniques can be used for resource and archeological exploration, climate change detection, and environmental investigations. Prerequisite: PHYS 1001H and GEOG 1040H.

» **EGEO-GEOG 3002H: Structural Geology (Sc)**
Examines the causes and outcomes of deformation in the Earth's crust. Students are introduced to the different geologic structures and methods to describe them, and will understand their relevance to mineral, water and fuel resources as well as subsurface contamination. Required field trips. Prerequisite: GEOG 1040H.

» **EGEO-ERSC-GEOG 3003H: Field Methods in Environmental Geoscience (Sc)**
Students learn essential field skills, including designing a field study, mapping, and measurement techniques. The geology of Southern Ontario and its mining industry are examined along with the potential for environmental impacts. Most instruction takes place during required field trips with students submitting weekly technical reports. Prerequisite: EGEO-GEOG 2001H or permission of instructor. Excludes EGEO-ERSC-GEOG 2000H.

» **EGEO 4000H: Environmental Geoscience Placement/Outreach Experience (Sc)**
Designed to provide students with a capstone experience in Environmental Geoscience, which may include either a job-shadowing/placement experience or the development and presentation of an outreach/education module. Placement/job shadowing experiences occur at a local agency or firm, whereas education modules are developed and presented at a local elementary school, high school, or environmental camp, or on campus through the School of Education & Professional Learning or the Trent Academic Camps enrichment program. Prerequisite: Open only to students who are registered in the Environmental Geoscience program with 13.5 university credits completed. Students are eligible to apply in the year before anticipated enrolment in the course. Application forms can be obtained from the Trent School of the Environment Administration Office.

» **EGEO 4020D: Honours Thesis (Sc)**
Design, implementation, and dissemination of a major research project in environmental geoscience featuring independent work under the supervision of a faculty supervisor. Prerequisite: 14.0 university credits and a minimum cumulative average of 75% in completed EGEO courses. Students must obtain the agreement of a faculty member to supervise the project. Applications are available from the Trent School of the Environment Administration Office, and should be submitted in the academic year before enrolment in the course.