GEOLOGICAL SCIENCES AND GEOLOGICAL ENGINEERING

Departmental Notes
Subject Code for Geological Sciences: GEOL
World Wide Web Address: http://www.queensu.ca/geol/

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Chair of Undergraduate Studies Geological Sciences: Peir Pufahl
(peir.pufahl@queensu.ca)(Fall) and Daniel Layton-Matthews
(dlayton@queensu.ca) (Winter)
Chair of Undergraduate Studies Geological Engineering: Mark
Diederichs (diederim@queensu.ca) (Fall)
Coordinator of Graduate Studies: Matthew Leybourne
(m.leybourne@queensu.ca)

Overview
Geoscientists are the interpreters of our natural world. They
bring methods such as geophysics, geochemistry, geobiology,
and field geology together to understand the modern and
ancient Earth. Clues concealed in rocks and fossils, minerals
and fluids, mountains and sediments, glaciers and volcanoes
are marshaled to understand and explain the Earth system
at all scales. Managing water, mineral, and energy resources,
developing sustainable strategies for industrial growth,
and coping with natural and anthropogenic hazards facing
increasing global populations, including climate change, all
depend on a deep understanding of natural processes. Our
graduates study the Earth in this context, with careers in
diverse fields including, but not limited to, research, mineral
and oil exploration, policy analysis, environmental science,
and resource management. The programs offered by this
Department focus on the whole planet and global processes
as a dynamic and integrated system.

Departmental Policies
Field Trips
Field trips are a necessary part of geological training and are
offered in each year of study because the Department wishes
to provide the best education possible.

Students are required to possess basic safety equipment
such as a hard hat, safety glasses, reflective vest, and
appropriate footwear, as specified for each course, and to
have reviewed and signed the Departmental Field Safety
Form and the OCASP form developed for each field trip or
course. Field equipment is available for sale in the Main
Office.

The cost of field trips and courses, including transportation,
accommodation, and food (when it is supplied), will be borne
by the student.

A list of the field education costs for each course (https://
www.queensu.ca/geol/undergrad/field-trips/fees-and-
equipment/) is provided on the departmental web page.
These costs are subject to change, and will be finalized by
June 1 each year for the following academic year. These costs
will be payable by the due dates listed in the table. Subsidies
will be provided by the Department when funding permits.

For students who are not registered in a Plan offered by the
Department there will be a charge per field trip. Students are
required to possess basic safety equipment such as a hard
hat, safety glasses, and appropriate footwear, and to have
reviewed and signed the Departmental Field Safety Form and
the OCASP form developed for each field trip or course.

Advice to Students
Students should seek academic advice from one of the program
consultants listed below

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<thead>
<tr>
<th>Departmental Program</th>
<th>Consultant</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Geology</td>
<td>Heather Jamieson</td>
<td><a href="mailto:jamieson@queensu.ca">jamieson@queensu.ca</a></td>
</tr>
<tr>
<td>Structural Geology/Tectonics/Economic Geology</td>
<td>Christopher</td>
<td><a href="mailto:c.spencer@queensu.ca">c.spencer@queensu.ca</a></td>
</tr>
<tr>
<td>Paleontology/Sedimentary Geology</td>
<td>Guy M. Narbonne</td>
<td><a href="mailto:narbonne@queensu.ca">narbonne@queensu.ca</a></td>
</tr>
<tr>
<td>Petrology/Geochemistry</td>
<td>Gema R. Olivo</td>
<td><a href="mailto:olivo@queensu.ca">olivo@queensu.ca</a></td>
</tr>
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Geology Plans are offered as components of a degree
Program within both the Faculty of Arts and Science (p. 1)
and the Faculty of Engineering and Applied Science (https://
queensu-ca-public.courseleaf.com/engineering-applied-
sciences/academic-plans/geological-engineering/). Students
applying to first year, with an interest in geology, should
consult both Calendars. Within Arts and Science, a great deal
of flexibility exists in the choice of Plans.

queensu.ca/academic-calendar
Students wishing to complete a Plan designed to train specialists in the Geological Sciences are encouraged to select one of the Geology Specialization Plans (https://queensu-ca-public.courseleaf.com/arts-science/schools-departments-programs/geological-sciences-engineering/geology-specialization-science-bs-honours/) or Major Plans (https://queensu-ca-public.courseleaf.com/arts-science/schools-departments-programs/geological-sciences-engineering/geology-major-science-bs-honours/). The Geology Specialization Plan (https://queensu-ca-public.courseleaf.com/arts-science/schools-departments-programs/geological-sciences-engineering/geology-specialization-science-bs-honours/) provides the opportunity for intensive study of Geology and the supporting sciences. It is intended to fulfill the 'Knowledge Requirements' for registration as a Professional Geoscientist. The Geology Major Plan (https://queensu-ca-public.courseleaf.com/arts-science/schools-departments-programs/geological-sciences-engineering/geology-major-science-bs-honours/) is ideal for students who are interested in a career-oriented program in the geosciences that also allows a wider choice of supporting and elective courses. Another alternative route, for students who are particularly interested in the solid-earth aspects of environmental science, is the Environmental Geology Plan (https://queensu-ca-public.courseleaf.com/arts-science/schools-departments-programs/geological-sciences-engineering/environmental-geology-specialization-science-bs-honours/).

Students wishing to study geology and another subject should consider geology as one component of a Major-Minor degree combination. The Minor (Science) (https://queensu-ca-public.courseleaf.com/arts-science/schools-departments-programs/geological-sciences-engineering/geology-minor-science/) may be combined with a Major in virtually any other subject, and provides a solid introduction to the Geological Sciences. As the General (Science) (https://queensu-ca-public.courseleaf.com/arts-science/schools-departments-programs/geological-sciences-engineering/geology-general-science-bs/), this same Plan when taken alone leads to a 3-year B.Sc. degree in Geology. Students who want to explore the field of Geological Sciences but with greater flexibility in choice of courses should consider combining the Geology Minor (Arts) Plan (https://queensu-ca-public.courseleaf.com/arts-science/schools-departments-programs/geological-sciences-engineering/geology-minor-arts/) in a Major-Minor degree combination. The General (Arts) in Geology (https://queensu-ca-public.courseleaf.com/arts-science/schools-departments-programs/geological-sciences-engineering/geology-general-arts-ba/), leading to a 3-year B.A. degree, is also available using the same suite of courses as the Minor (Arts) (https://queensu-ca-public.courseleaf.com/arts-science/schools-departments-programs/geological-sciences-engineering/geology-minor-arts/).

If you have questions about the differences between the various programs, or on particular course selections, consult with the Chair of Undergraduate Studies before registration. Additional information about the various degree programs can be found by consulting the Geoscience Program webpage (https://www.queensu.ca/geol/undergrad/geological-sciences/).

**Special Study Opportunities**

Specialized graduate courses in some areas of Geology are available to qualified students in their final year, and may be counted for advanced standing in a Master’s degree at Queen’s University. For details, consult the Chair of Undergraduate Studies.