

## **MINIMUM KNOWLEDGE (ACADEMIC) REQUIREMENTS**

The core entry requirement for admission to professional practice is a 4-year bachelor of science degree in geoscience awarded by a Canadian university. An equivalent credential may be recognized by the APGO Registration Committee through an assessment of content against a representative undergraduate degree to determine if the APGO minimum criteria for admission to professional practice have been met.

This level of geoscience education is considered to meet the minimum knowledge requirements recommended by the Canadian Council of Professional Geoscientists (CCPG) for admission to practice and for interprovincial mobility. No specific university program is designated as a standard because the contents of present or past geoscience university programs in Ontario and Canada are not similar, applicants for professional registration may hold degrees in other than geoscience, applicants may have been educated outside of Canada, or applicants may have gained specific knowledge outside of the degree format. Instead, a minimum number of core knowledge requirements must be satisfied, as outlined below and in Schedule "A". Additionally, the CCPG recommends that acceptable professional practice requires technical writing ability, oral communication effectiveness and awareness of regulatory and legal issues of practice for interprovincial mobility.

The following summary of representative core content in a 4-year bachelor of science degree in geoscience is provided:

### Foundation Mathematics and Sciences

(9 Educational Units – "EUs")

(1 EU = 1 Semester or ½ year course)

- Calculus
- Chemistry
- Physics
- Biology
- Computer Science
- Statistics

### Foundation or Core Geosciences (6 EUs)

- Mineralogy
- Stratigraphy or Sedimentation
- Petrology
- Geophysics
- Geochemistry
- Hydrogeology or Hydrology
- Quaternary Geology or Geomorphology
- Structural Geology
- Introductory Field Techniques

### Geoscience Electives (15 EUs) (see Schedule "A")

Information on additional current geoscience elective course content material is given in Schedule "A".

### Other Electives or Professional Studies

As may be required in a 4-year degree program

Introductory Geoscience has not been included in the EU count as it is anticipated that this course, or equivalent content, would have been required prior to admission to second year core geoscience course content.

## SCHEDULE “A”

Recommended Elective or Other Content Educational Units (EUs). This schedule illustrates representative EUs, as elective or mandatory content in three primary geoscience streams, and as may be offered or required by universities in Ontario. The lists are to assist both an applicant and the Registration Committee with evaluation of degree content and will be updated from time-to-time. These representative streams are not exclusive as professional geoscientists in Ontario are not registered into or by specialties. Content may be found in any of the streams.

### Geology

Air Photograph Analysis  
Biogeochemistry  
Biology – Advanced  
Carbonate Sedimentology  
Chemistry – Advanced  
Field School – Advanced  
Field School- Exploration  
Geochemistry  
Geochemistry – Advanced  
Geochemistry – Exploration  
Geographic Information Systems  
Geomorphology  
Geomorphology – Advanced  
Geophysics / Earth Physics  
Geophysics – Advanced  
Geoscience Seminar  
Glacial Geology  
Glacial Geology – Advanced  
Hydrogeology  
Hydrology  
Igneous Petrology  
Igneous Petrology – Advanced  
Industrial Minerals and Coal  
Marine Geology  
Metamorphic Petrology  
Metamorphic Petrology – Adv'c'd  
Micropaleontology  
Mineralogy – Advanced  
Natural Hazard Identification  
Numerical Methods / Advanced  
Computing  
Ore Deposits  
Ore Petrology – Advanced  
Paleontology  
Petroleum and Natural Gas  
Quaternary Geology  
Quaternary Geology – Advanced  
Remote Sensing  
Sedimentary Petrology  
Sedimentology – Advanced  
Soil Mechanics  
Soil Science  
Stratigraphic Paleontology  
Tectonics / Structure – Advanced  
Thesis or Research Project  
(1 or 2 EUs)

### Geophysics

Air Photograph Analysis  
Applied Exploration Geophysics  
Atmospheric and Space Physics  
Calculus (III)  
Calculus (IV)  
Data Processing or Inversion  
Dynamics  
Electrical  
Electromagnetic Theory  
Electronics  
Environmental Geophysics  
Exploration Geophysics  
Field School – Advanced  
Geographic Information Systems  
Geomagnetism – Advanced  
Geophysical Hazard Assessment  
Geophysics – Advanced  
Geophysical Interpretation  
Geoscience Seminar  
Gravity  
Industrial Minerals and Coal  
Magnetics  
Marine Geophysics  
Mechanics – Advanced  
Nuclear Physics  
Numerical Methods / Advanced  
Computing  
Ore Deposits  
Petroleum Deposits  
Physical Properties of Rocks and  
Minerals  
Physics – Advanced  
Potential Field Theory  
Radiometrics  
Remote Sensing  
Seismology  
Seismology – Advanced  
Tectonics / Structure - Advanced  
Thermodynamics  
Time Series Analysis in Geophysics  
Thesis or Research Project  
(1 or 2 EUs)

### Environmental Geoscience

Air Photograph Analysis  
Aquatic Chemistry  
Biogeochemistry  
Biology – Advanced  
Chemistry – Advanced  
Chemistry – Environmental  
Chemistry – Organic  
Climatology/Atmospheric Science  
Contaminant Transport  
Ecology  
Environmental Geophysics  
Environmental Impact Assessment /  
Environmental Planning Mgmt.  
Environmental Studies – Advanced  
Field School – Advanced  
Geochemistry  
Geochemistry – Advanced  
Geographic Information Systems  
Geomicrobiology  
Geomorphology - Advanced  
Geophysics  
Geophysics – Advanced  
Geoscience Seminar  
Glacial Geology – Advanced  
Hydrogeology  
Hydrogeology – Advanced  
Hydrology  
Industrial Minerals and Coal  
Isotope Chemistry  
Limnology  
Marine Geology  
Natural Hazard Identification  
Numerical Methods / Advanced  
Computing  
Oceanography  
Ore Deposits  
Paleontology  
Petroleum and Natural Gas  
Quaternary Geology – Advanced  
Remote Sensing  
Sedimentology – Advanced  
Soil Mechanics  
Soil Science  
Thesis or Research Project  
(1 or 2 EUs)