

# APGO Knowledge Requirements

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## **Environmental Geoscience 2017-2018**



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# APGO Knowledge Requirements

## Environmental Geoscience

*"To practice as a professional geoscientist in Ontario, Geoscientists Canada recommends a 4-year bachelor of science degree in an area of geoscience awarded by a Canadian university, or the equivalent, which meets the entry level knowledge requirements set by the APGO Registration Committee and as approved by Council. All credentials are assessed by the Registration Committee against the specified knowledge requirements to determine if the APGO minimum criteria for admission to professional practice have been met."*

- Association of Professional Geoscientists of Ontario

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*\*Note: This document acts only as a guide. Final decisions are decided upon the APGO Registration Committee.*

The following is a summary of the knowledge requirements that are detailed in the next 4 pages:

- 1A - Compulsory Foundation Science (3 EUs)
- 1B - Additional Foundation Science (6 EUs)
- 2A - Compulsory Foundation Geoscience (4 EUs)
- 2B - Additional Foundation Geoscience (5 EUs)
- 2C - Other Geoscience/Science (9 EUs)

Educational unit (EU) is equivalent to one semester of 0.5 credits. EUs for sections 1A and 1B must be first year or higher university level courses.

Note: EUs for sections 1A and 1B must be a first year or higher university level course acceptable for credit towards a degree in science, applied science or engineering. Remedial secondary school level courses, such as algebra, chemistry, geometry, physics or trigonometry will not be accepted.

Note: EUs for sections 2A, 2B, and 2C must be a second year or higher university level course acceptable for credit towards a degree in science, applied science or engineering. All courses must be credited and a mark received. Audited courses will not be accepted. Courses used in 2A or 2B cannot be used for 2C.

Note: For sections 2B and 2C the 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. Please note that certain streams do have specific requirements that must be met and are noted in the following tables.

| <b>APGO Knowledge Requirements: Environmental Geoscience</b>  |                               |                        |
|---|-------------------------------|------------------------|
|   | Subject Area Requirement      | UTSC Course Equivalent |
| <b>1A - Compulsory Foundation Science (3 EUs)</b><br><br>(Total of 3 EUs - 1 in each subject area requirement)  | Chemistry                     | CHMA10, CHMA11         |
|   | Math (Calculus)               | MATA30, MATA36/MATA37  |
|   | Physics                       | PHYA10, PHYA11         |
| <b>1B - Additional Foundation Science (6EUs)</b><br><br>(Total of 6 EUs - No more than 2 EUs from any of the six subject area requirements)                               | Biology                       | BIOA01, BIOA02         |
|   | Computer Programming          | PSCB57, CSCA20         |
|   | Chemistry                     | CHMA10, CHMA11, CHMB55 |
|   | Mathematics                   | MATA30, MATA36/MATA37  |
|   | Physics                       | PHYA10, PHYA11         |
|   | Statistics                    | STAB22                 |
| <b>2A - Compulsory Foundation Geoscience (4 EUs)</b><br><br>(Total 4 EUs - 1 in each area required)   | Field Techniques              | EESC16, EESD07         |
|   | Mineralogy & Petrology        | EESB19                 |
|   | Sedimentation & Stratigraphy  | EESB20                 |
|   | Structural Geology            | EESC37                 |
| <b>2B - Additional Foundation Geoscience (5 EUs)</b><br><br>(Total 5 EUs - Requires minimum of 1 and at most 2 from each sub-group, but no more than one in each subject) | Geochemistry                  | EESC20                 |
|   | Geophysics                    | N/A                    |
|   | Hydrogeology/Hydrology        | EESB04, EESD02         |
|   | Engineering Geology           | N/A                    |
|   | Geomorphology/Soil Science    | EESB02, EESB05         |
|   | Glacial Geology               | EESC31                 |
|   | Remote Sensing                | EESC03                 |
|   | Sedimentology                 | EESB20                 |
|   | Glacial Geology/Geomorphology | EESC31, EESB02         |
|   | Remote Sensing                | EESC03                 |

|   |                              |                        |
|---|------------------------------|------------------------|
| <b>2C - Other Geoscience/science (9 EUs)</b><br><br>(Total of 9 EUs and must be at least a second year university level relevant to geoscience) | Thesis                       | EESD09, EESD10         |
|   | Technical Writing            | EESC24                 |
|   | Climatology                  | EESB03                 |
|   | Meteorology                  | N/A                    |
|   | Oceanography                 | EESC19                 |
|   | Paleoenvironmental Studies   | N/A                    |
|   | Paleoclimatology             | N/A                    |
|   | Paleoecology                 | N/A                    |
|   | Paleobiology                 | N/A                    |
|   | Environmental Assessment     | EESC13                 |
|   | Field Techniques             | EESC16, EESC33, EESD07 |
|   | Environmental Geochemistry   | EESC20                 |
|   | Isotope Geochemistry         | N/A                    |
|   | Aqueous Geochemistry         | N/A                    |
|   | Biogeochemistry              | N/A                    |
|   | Atmospheric Geochemistry     | N/A                    |
|   | Low temperature Geochemistry | N/A                    |
|   | Geomorphology                | EESB02                 |
|   | Natural Hazards              | EESB18                 |
|   | Quaternary Geology           | N/A                    |
|   | Pedology                     | N/A                    |
|   | Glaciology                   | N/A                    |
|   | Environmental Geophysics     | N/A                    |
|   | Exploration Geophysics       | N/A                    |
|   | Applied Geophysics           | N/A                    |
|   | Engineering Geology          | N/A                    |
|   | Soil Mechanics               | N/A                    |
|   | Rock Mechanics               | N/A                    |
|   | Resource Geotectonics        | N/A                    |
|   | Contaminant Transport        | N/A                    |
| Hydrogeology  | EESD02                       |                        |

|  |                                     |                |
|--|-------------------------------------|----------------|
|  | Hydrology                           | EESB04         |
|  | Fluid Mechanics                     | N/A            |
|  | Crystallography                     | N/A            |
|  | X-Ray Crystallography               | N/A            |
|  | Analytical Methods                  | CHMC11, CHMC16 |
|  | Micropaleontology                   | N/A            |
|  | Palynology                          | N/A            |
|  | Geostatistics                       | N/A            |
|  | Computer Application in Geosciences | N/A            |
|  | Geographic Information Systems      | N/A            |
|  | Geology of Canada                   | N/A            |
|  | Geology of North America            | N/A            |
|  | Remote Sensing                      | EESC03         |
|  | Air photo Interpretation            | N/A            |
|  | Economic Geology                    | N/A            |
|  | Mineral Deposits Geology            | N/A            |
|  | Ore Petrology                       | N/A            |
|  | Coal Geology                        | N/A            |
|  | Petroleum Geology                   | N/A            |
|  | Industrial Minerals                 | N/A            |
|  | Chemical Sedimentology              | N/A            |
|  | Clastic Sedimentology               | N/A            |
|  | Carbonate Sedimentology             | N/A            |
|  | Glacial Geology                     | EESC31         |
|  | Limnogeology                        | N/A            |
|  | Historical Geology                  | N/A            |
|  | Sequence Stratigraphy               | N/A            |
|  | Stratigraphic Paleontology          | N/A            |
|  | Geochronology                       | N/A            |
|  | Global Tectonics                    | N/A            |
|  | Tectonics                           | N/A            |
|  | Structural Geology                  | EESC37         |

### Other:

If you have completed and passed a university course which is at a second year university level or higher and credited towards a degree in science which is not listed in section 2C but would fulfil the APGO requirements, please list them below. Please indicate the course title, course code, and the number of EUs requested for each entry.

### Application Procedure for the Earth Ring Ceremony:

1. Print out the **APGO Requirement Guide** (this form) and highlight the corresponding courses in meeting the APGO requirements.
2. Complete the "**UofT Earth Ring Ceremony 2018 Registration Package.**" Application can be picked up at the EPSA office in **EV264** from Monday-Thursday 10-4PM.
3. Bring **both** the **APGO Requirements Guide** and the **UofT Earth Ring Ceremony 2018 Registration Package** to the EPSA office. An EPSA representative will ensure all requirements are met, assist with ring size and process transaction\*.

\*Payment accepted in **cash** or **cheque** only

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### **Questions? Speak with an EPSA representative.**

Raymond Co, Vpacademics@myepsa.ca

Jacob Mastin, Environmentalrep@myepsa.ca

It is recommended to register for the FREE Student Membership to take advantage of the available resources APGO has to offer. Online Webinar Series, APGO Mentoring Program, and numerous networking events are offered to members. For more information, please visit [www.apgo.net](http://www.apgo.net).

### **APGO Contact Information:**

Association of Professional Geoscientists of Ontario

Tel: (416) 203-2746 ext. 34 for registration process

Tel: (416) 201-2746 ext. 24 for general inquiries

Email: [info@apgo.net](mailto:info@apgo.net)