GEOLOGICAL ENGINEERING, B.A.SC. (CLASS OF 2028)

General First Year 2024-2025 (https://www.queensu.ca/academic-calendar/engineering-applied-sciences/first-year-studies/)

Second Year CORE 2025-2026

Code	Title	Units
APSC 200	Engineering Design & Practice II [1]	4.00
APSC 221	Economic and Business Practice [1]	3.00
APSC 293	Engineering Communications 2 [1]	1.00
CHEE 209	Analysis of Process Data	3.50
CIVL 230	Solid Mechanics I	4.25
GEOE 207	History of Life	3.50
GEOE 221	Geological Engineering Field Methods	5.00
GEOE 232	Mineralogy	4.50
GEOE 235	Gen & Char Solid Earth Mtls	4.00
GEOE 238	Sedimentology & Stratigraphy	4.00
GEOE 249	Geophysical Char Of The Earth	3.50
GEOE 281	Introduction to Geological Engineering	4.00
MTHE 225	Ordinary Differential Equations [1]	3.50
Total Units		**47.75**

[1] Students in GEOE take APSC 221 (https://www.queensu.ca/academic-calendar/search/?P=APSC%20221) Economic And Business Practice, APSC 200 (https://www.queensu.ca/academic-calendar/search/?P=APSC%20200) Engineering Design & Practice II, APSC 293 (https://www.queensu.ca/academic-calendar/search/?P=APSC%20293) Engineering Communications and MTHE 225 (https://www.queensu.ca/academic-calendar/search/?P=MTHE%20225) Ordinary Differential Equations in the Winter term.

Intersession (Taken at the end of August before 3rd Year)

Code	Title	Units
GEOE 300	Geological Engineering Field School	4.00

Third Year CORE 2026-2027

Code	Title	Units
CIVL 340	Geotechnical Engineering 1	4.00
GEOE 313	Geomechanics and Engineering Geology	4.00
GEOE 319	Applied Geophysics	4.50
GEOE 321	Structural Geology	4.00
GEOE 333	Terrain Evaluation	4.00
GEOE 343	Applied Hydrogeology	3.50
GEOE 345	Site Investigation & Geological Engineering Design	4.00
GEOE 359	Applied Quantitative Analysis in Geological Engineering	3.50
GEOE 362	Resource Engineering	4.50
GEOE 365	Geochemical Characterization Of The Earth	4.00
Technical Electives		3.50
Total Units		**43.50**

Fourth Year CORE 2027-2028

Code	Title	Units
GEOE 446	Engineering Design Project I	4.00
GEOE 447	Engineering Design Project II	5.50
Technical Elective F/W		14.00
Complementary Studies		6.00
Total Units		**29.50**

Electives

The Geological Engineering student requires a total of 17.5 **Technical Elective** (TE) **Credits** (210 AUs). These are typically, (but not exclusively) taken as 5 TE elective courses with a minimum average of 3.5 Credits or 42 AUs per course. These courses can be taken at any point during the program to accommodate timetabling but normally only in third and fourth year. Students should plan to ensure that prerequisite and corequisite requirements are met for the full suite of TE or CS electives they wish to take during their program. Students should note that a reduction of total course load to less than 80% of the normal load may prevent them from holding Queen's University scholarships.

It is mandatory that at least 7 Credits of Technical Electives (TE) be taken from the following list:

Code	Title	Units
APSC 381	Advanced Design and Skills for Innovation	3.50
APSC 480	Multi-disciplinary Industry	9.00
CIVL 215	Materials For Civil Engineers	4.50
CIVL 250	Hydraulics I	4.00
CIVL 341	Geotechnical Engineering 2	4.00
CIVL 443	Geoenvironmental Design	4.00
CIVL 471	Subsurface Contamination	4.00
GEOE 410	Advanced Geological Engineering Field School	4.00

GEOE 413	Rock Engineering Design	3.50
GEOE 462	Advanced Petrogenesis and Metallogenesis	4.50
MECH 270	Materials Science and Engineering	3.50
MINE 321	Drilling & Blasting	4.50
MINE 467	Geostatistics and Orebody Modelling	4.50

Geological Engineering: Technical Electives (https://www.queensu.ca/academic-calendar/engineering-applied-sciences/academic-plans/geological-engineering/geological-engineering-technical-electives/)

Complementary Studies

Refer to the Complementary Studies section of this calendar for courses that may be taken for all Engineering programs. For the Geological Engineering Program, the Engineering Economics course is APSC 221 (https://www.queensu.ca/academic-calendar/search/?P=APSC%20221) Economic And Business Practice, and the Communications course is APSC 293 (https://www.queensu.ca/academic-calendar/search/?P=APSC%20293) Engineering Communications in addition to first year program and the three Complementary Studies courses (as above): 3 credits from List A and 6 credits from Lists A or B.