

MINING ENGINEERING, B.A.SC. (CLASS OF 2025)

Second Year Common Core - 2022-2023

| Code | Title | Units |
|--------------------|---|--------------|
| APSC 200 | Engineering Design & Practice II | 4.00 |
| APSC 293 | Engineering Communications | 1.00 |
| CHEE 209 | Analysis Of Process Data | 3.50 |
| CIVL 230 | Solid Mechanics I | 4.25 |
| MECH 228 | Kinematics And Dynamics | 3.50 |
| MINE 201 | Introduction to Mining and Mineral Processing | 4.00 |
| MTHE 225 | Ordinary Differential Equations | 3.50 |
| CHEE 210 | Thermodynamics of Energy Conversion Systems | 3.50 |
| CIVL 222 | Numerical Methods | 5.00 |
| MECH 210 | Electronic Circuits and Motors for Mechatronics | 4.50 |
| MINE 267 | Applied Chemistry for Mining | 3.50 |
| MINE 268 | Analytical Methods in Mining | 1.00 |
| MINE 272 | Applied Data Science | 4.50 |
| Total Units | | 45.75 |

Third Year Common Core - 2023-2024

| Code | Title | Units |
|--|---------------------------------|--------------|
| MINE 321 | Drilling & Blasting | 4.50 |
| MINE 325 - Applied Rock Mechanics ¹ | | 4.50 |
| MINE 326 | Operations Research | 4.50 |
| MINE 330 | Mineral Industry Economics | 3.50 |
| MINE 331 | Methods Of Mineral Separation | 4.50 |
| GEOE 262 | Aspects Mineral Deposits | 3.75 |
| MINE 341 | Open Pit Mining | 4.50 |
| MINE 344 | Underground Mining | 4.00 |
| MREN 241 | Fluid Mechanics and Fluid Power | 3.75 |
| Total Units | | 37.50 |

¹ Changing from MINE 225.

Mining Option N1

| Code | Title | Units |
|------------------------|------------------|--------------|
| Third Year Common Core | | 37.50 |
| MINE 339 | Mine Ventilation | 4.50 |
| Mining Elective | | 3.00 |
| Mining Elective | | 3.00 |
| Total Units | | 48.00 |

Minerals Processing Environmental Option N2

| Code | Title | Units |
|------------------------|-------------------------------|--------------|
| Third Year Common Core | | 37.50 |
| CHEE 319 | Process Dynamics & Control | 3.50 |
| CHEE 321 | Chemical Reaction Engineering | 3.50 |
| Mining Elective | | 3.00 |
| Total Units | | 47.50 |

Mine-Mechanical Option N3

| Code | Title | Units |
|------------------------|------------------------|--------------|
| Third Year Common Core | | 37.50 |
| MECH 328 | Dynamics And Vibration | 3.50 |
| MECH 323 | Machine Design I | 4.50 |
| MECH 350 | Automatic Control | 3.50 |
| Total Units | | 49.00 |

Fourth Year Common Core - 2024-2025

| Code | Title | Units |
|-----------------------------------|--|--------------|
| MINE 422 | Mining And Sustainability | 4.00 |
| MINE 431 | Life-Cycle Assessment for Green Technologies | 3.50 |
| MINE 459 | Risk and Reliability Analysis for Industrial Asset Management, Health & Safety | 4.00 |
| Mining Elective | | 3.00 |
| Complementary Studies List A or B | | 3.00 |
| Complementary Studies List A | | 3.00 |
| Total Units | | 20.50 |

Mining Option N1

| Code | Title | Units |
|-------------------------|-------------------------------------|--------------|
| Fourth Year Common Core | | 20.50 |
| MINE 467 | Geostatistics and Orebody Modelling | 4.50 |
| MINE 445 | Open Pit Mine Design | 5.50 |
| MINE 448 | Underground Design | 5.50 |
| Mining Elective | | 3.00 |
| Total Units | | 39.00 |

Minerals Processing Environmental Option N2

| Code | Title | Units |
|-------------------------|-------------------------------|-------|
| Fourth Year Common Core | | 20.50 |
| MINE 451 | Chemical Extraction Of Metals | 4.00 |



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|--------------------|---|--------------|
| MINE 455 | Design, Analysis and Operation of Mineral Processes | 4.50 |
| MINE 458 | Process Investigations | 4.00 |
| Mining Elective | | 3.00 |
| Mining Elective | | 3.00 |
| Total Units | | 39.00 |

Mine-Mechanical Option N3

| Code | Title | Units |
|--------------------|--------------------------------|--------------|
| | Fourth Year Common Core | 20.50 |
| MINE 339 | Mine Ventilation | 4.50 |
| MINE 471 | Mine-Mechanical Design Project | 5.50 |
| Mining Elective | | 3.00 |
| Mining Elective | | 3.00 |
| Mining Elective | | 3.00 |
| Total Units | | 39.50 |

Elective Requirements

Students in all options (N1-Mine-Mine, N2-Mineral Processing Environmental, N3-Mine-Mechanical) must take a minimum of four courses from the approved Elective lists.

Mining Engineering: Electives (<https://queensu-ca-public.courseleaf.com/engineering-applied-sciences/academic-plans/mining/mining-engineering-electives/>)

Complementary Studies

Refer to the Complementary Studies section of this calendar for details regarding the requirements for all Engineering programs. For the Mining Program, the Engineering Economics courses are APSC 221 Economic And Business Practice and MINE 330 Mineral Industry Economics. The Communications course is APSC 293 Engineering Communications. Included in the core Mining program is an additional 2.0 credits of Linkage in MINE 459 Risk and Reliability Analysis for Industrial Asset Management, Health & Safety. In addition to this core content, Mining students must take at least 6 additional credits of Complementary Studies, of which at least 3 credits must be from List A and the remaining 3 credits can be from List A or B.