

# MINING ENGINEERING, B.A.SC. (CLASS OF 2024)

## Second Year Common Core - 2021-2022

Code	Title	Units
APSC 200	Engineering Design & Practice II	4.00
APSC 221	Economic And Business Practice	3.00
APSC 293	Engineering Communications	1.00
CHEE 209	Analysis Of Process Data	3.50
CIVL 230	Solid Mechanics I	4.25
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
<b>Total Units</b>		<b>45.25</b>

## Mining Option N1

Code	Title	Units
	Second Year Common Core	45.25
	Complementary Studies, List A	3.00
<b>Total Units</b>		<b>48.25</b>

## Minerals Processing Environmental Option N2

Code	Title	Units
	Second Year Common Core	45.25
	Complementary Studies, List A	3.00
<b>Total Units</b>		<b>48.25</b>

## Mine-Mechanical Option N3

Code	Title	Units
	Second Year Common Core	45.25
MECH 228	Kinematics And Dynamics	3.50
<b>Total Units</b>		<b>48.75</b>

## Third Year Common Core - 2022-2023

Code	Title	Units
MINE 321	Drilling & Blasting	4.50
MINE 325 - Applied Rock Mechanics		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
<b>Total Units</b>		<b>37.50</b>

## Mining Option N1

Code	Title	Units
	Third Year Common Core	37.50
MINE 339	Mine Ventilation	4.50
	Mining Elective List A	3.00
	Mining Elective List A or B	3.00
<b>Total Units</b>		<b>48.00</b>

## 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 List A	3.00
<b>Total Units</b>		<b>47.50</b>

## 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
<b>Total Units</b>		<b>49.00</b>

## Fourth Year Common Core - 2023-2024

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 List A or B	3.00
	Complementary Studies List A or B	3.00
<b>Total Units</b>		<b>17.50</b>



## Mining Option N1

Code	Title	Units
Fourth Year Common Core		17.50
MINE 467	Geostatistics and Orebody Modelling	4.50
MINE 445	Open Pit Mine Design	5.50
MINE 448	Underground Design	5.50
Mining Elective List A or B		3.00
<b>Total Units</b>		<b>36.00</b>

## Minerals Processing Environmental Option N2

Code	Title	Units
Fourth Year Common Core		17.50
MINE 451	Chemical Extraction Of Metals	4.00
MINE 455	Design, Analysis and Operation of Mineral Processes	4.50
MINE 458	Process Investigations	4.00
Mining Elective List A		3.00
Mining Elective List A or B		3.00
<b>Total Units</b>		<b>36.00</b>

## Mine-Mechanical Option N3

Code	Title	Units
Fourth Year Common Core		17.50
MINE 339	Mine Ventilation	4.50
MINE 471	Mine-Mechanical Design Project	5.50
Complementary Studies, List A		3.00
Mining Elective List A or B		3.00
Mining Elective List A		3.00
Mining Elective List A or B		3.00
<b>Total Units</b>		<b>39.50</b>

## 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.