

# Mining Engineering Co-op Curriculum - Fall 2019

Non-CEGEP Entry

<b>1st Term (Fall)</b>		<b>15 credits</b>	<b>Prerequisites/Co-requisites</b>
CHEM 110	General Chemistry 1	4	P - College level mathematics and physics or permission of instructor
FACC 100	Introduction to the Engineering Profession	1	-
MATH 133	Linear Algebra and Geometry	3	P - A course in functions
MATH 140	Calculus 1	3	P - High school calculus
PHYS 131	Mechanics and Waves	4	C - Calculus course [MATH 140]
<b>2nd Term (Winter)</b>		<b>15 credits</b>	<b>Prerequisites/Co-requisites</b>
CHEM 120	General Chemistry 2	4	P - College level mathematics and physics or permission of instructor
MATH 141	Calculus 2	4	P - MATH 140
PHYS 142	Electromagnetism and Optics	4	P - PHYS 131 / C - MATH 141
CS	Complementary Studies Group B (HSSML) - 1*	3	-
<b>3rd Term (Fall)</b>		<b>18 credits</b>	<b>Prerequisites/Co-requisites</b>
CCOM 206	Communication in Engineering	3	-
EPSC 221	General Geology	3	-
MATH 262	Intermediate Calculus	3	P - MATH 133, MATH 141
MATH 263	Ordinary Differential Equations for Engineers	3	C - MATH 262
MECH 289	Design Graphics	3	-
MIME 200	Introduction to the Minerals Industry	3	-
<b>4th Term (Winter)</b>		<b>16 credits</b>	<b>Prerequisites/Co-requisites</b>
CIVE 205	Statics	3	-
COMP 208	Computer Programming for Physical Sciences and Engineering	3	P - MATH 141 / C - MATH 133
EPSC 225	Properties of Minerals	1	-
FACC 250	Responsibilities of the Professional Engineer	0	P - FACC 100 or BREE 250
FACC 300	Engineering Economy	3	-
MATH 264	Advanced Calculus for Engineers	3	P - MATH 262 / C - MATH 263
MIME 209	Mathematical Applications	3	-
<b>5th Term (Summer)</b>		<b>4 credits</b>	<b>Prerequisites/Co-requisites</b>
MIME 203	Mine Surveying	2	P - MECH 289
MIME 290	Industrial Work Period 1	2	P - MIME 200 and MIME 203
<b>6th Term (Fall)</b>		<b>16 credits</b>	<b>Prerequisites/Co-requisites</b>
CIVE 207	Solid Mechanics	4	P - CIVE 205 or MECH 210
MIME 260	Materials Science and Engineering	3	-
MIME 340	Applied Fluid Dynamics	3	-
MIME xxx	Technical Complementary	3	-
CS	Complementary Studies Group B (HSSML) - 2*	3	-
<b>7th Term (Winter)</b>		<b>15 credits</b>	<b>Prerequisites/Co-requisites</b>
MIME 322	Rock Fragmentation	3	P - MIME 200
MIME 323	Rock and Soil Mass Characterization	3	P - EPSC 221, MIME 200
MIME 325	Mineral Industry Economics	3	P - FACC 300
MIME 333	Materials Handling	3	P - MIME 200
MIME 341	Introduction to Mineral Processing	3	P - MIME 200 or MIME 250
<b>8th Term (Summer)</b>		<b>2 credits</b>	<b>Prerequisites/Co-requisites</b>
MIME 291	Industrial Work Period 2	2	P - MIME 290
<b>9th Term (Fall)</b>		<b>17 credits</b>	<b>Prerequisites/Co-requisites</b>
CIVE 208	Civil Engineering System Analysis	3	P - COMP 208 / C - MATH 264
MIME 329	Mining Geology	2	P - EPSC 221, MIME 200, instructor permission
MIME 330	Mining Geotechnics	3	P - MIME 323
MIME 421	Rock Mechanics	3	P - MIME 323, instructor permission
MIME 425	Applied Stochastic Orebody Modelling	3	P - MPMC 326 and MOMC 329
MIME xxx	Technical Complementary	3	-
<b>10th Term (Winter)</b>		<b>2 credits</b>	<b>Prerequisites/Co-requisites</b>
MIME 392	Industrial Work Period 3	2	P - MIME 291, 75 program credits
<b>11th Term (Summer)</b>		<b>15 credits</b>	<b>Prerequisites/Co-requisites</b>
MIME 419	Surface Mining	3	P - MIME 322, MIME 325, MIME 333
MIME 422	Mine Ventilation	3	P - MIME 340
MIME 424	Underground Mining Methods	3	P - MIME 322, MIME 325, MIME 333
MIME 428	Environmental Mining Engineering	3	P - MIME 200, MIME 291
MIME xxx	Technical Complementary	3	-
<b>12th Term (Fall)</b>		<b>16 credits</b>	<b>Prerequisites/Co-requisites</b>
ECSE 461	Electric Machinery	3	-
FACC 400	Engineering Professional Practice	1	P - FACC 100, FACC 250**, and 60 program credits
MIME 413	Strategic Mine Planning With Uncertainty	3	P - MIME 325, MIME 419, MPMC 326, and MPMC 329
MIME 426	Mine Design and Prefeasibility Study	6	P - MIME 333, MIME 325, MIME 421 or MPMC 321
CS	Complementary Studies Group A (Impact)*	3	-

Technical Complementary courses are selected from an approved list given on the next page.

\*The Complementary Studies (CS) courses are Impact of Technology courses (Group A) and Humanities & Social Sciences, Management Studies and Law courses (Group B). Students must take one course (3 credits) from Group A and two courses (6 credits) from Group B. The curriculum above includes suggested terms during which these courses

\*\*FACC 250 is not yet indicated as a prerequisite in the eCalendar course information ([www.mcgill.ca/study](http://www.mcgill.ca/study)) but it will be before FACC 400 is taken.

Students are responsible for satisfying pre-/co-requisites and verifying with their department that they are meeting the requirements of their program.

## Technical Complementary Courses - Mining Engineering

8-9 credits (3-4 courses) selected from those listed below or any other approved technical course(s) in Engineering, Management or Science.

Note: Not all courses are given annually; verification with course instructor is advised.

		<b>Credits</b>	<b>Prerequisites/Co-requisites</b>
CFIN 410	Investment and Portfolio Management	3	P - MGCR 211, MGCR 341
CIVE 416	Geotechnical Engineering	3	P - CIVE 311 or instructor permission
CIVE 421	Municipal Systems	3	P - CIVE 327
CIVE 514	Structural Mechanics	3	P - CIVE 207 and instructor permission
CIVE 584	Groundwater Engineering	3	P - CIVE 311 or instructor permission
EPSC 320	Elementary Earth Physics	3	P - MATH 133, MATH 222/262, or equivalent courses
EPSC 549	Hydrogeology	3	P - Permission of instructor
FINE 482	International Finance 1	3	P - MGCR 341
MIME 320	Extraction of Energy Resources	3	-
MIME 442	Analysis, Modelling and Optimization in Mineral Processing	3	P - MIME 341
MIME 484	Mining Project	3	P - 85 credits completed
MIME 494	Industrial Work Period 4	3	P - MIME 419, MPMC 328, MPMC 421
MIME 511	Advanced Mine Ventilation and Air Conditioning	3	-
MIME 514	Sustainability Analysis of Mining Systems	3	P - FACC 300 and MIME 341, or permission of instructor
MIME 520	Stability of Rock Slopes	3	P - Permission of instructor
MIME 527	Selected Topics in Mineral Resource Engineering	3	P - 85 credits
MIME 544	Analysis: Mineral Processing Systems 1	3	P - MIME 341
MIME 545	Analysis: Mineral Processing Systems 2	3	P - MIME 341
MIME 588	Reliability Analysis of Mining Systems	3	P - Permission of instructor
MPMC 320	CAO et informatique pour les mines	3	-

**Last update: September 19, 2019**

For the official program listing, see the *Programs, Courses and University Regulations* publication ([www.mcgill.ca/study](http://www.mcgill.ca/study)).