

Department of Mining Engineering

Curriculum (Core Courses) for a Degree of B. Sc. in Mining Exploration

COURSE CODE	COURSE TITLE	CREDITS
Semester I (Fall)		
1212101	General Geology	2
1510160	Engineering Drawings 1	1
1914101	Calculus I	4
2110103	General Chemistry (major in Eng.)	3
2110104	General Chemistry Lab	1
1212102	Field Excursion	1
2410101	General Work Shop	1
	General Course	
Semester II (Spring)		
1914102	Calculus II	4
2010115	General Physics I	3
1610104	Static	3
1212114	Analytical Chemistry	2
1212108	Optical Mineralogy	1
1212123	Mineralogy and lab	3
	General Course	
Semester III (Fall)		
2010125	General Physics II	3
2010126	General Physic Lab. (Electricity)	1
1914251	Elementary Differential Equations	3
1612212	Strength of Materials	3
1212202	Petrology I & lab	2
1212203	Physical Chemistry	2
1914252	Engineering Mathematics	3
	General Course	
Semester IV (Spring)		
1212204	Petrology II & Lab	2
1212228	Graphic Methods of Structural Geology	1
1212206	Structural Geology (Tectonics)	2
1514266	Fluid Mechanics	3
1730150	Computer Programming	3
1212205	Rock Mechanics	2
1212208	Rock Mechanics Lab	1
1914271	Numerical Methods	2
	General Course	
Semester V (Fall)		
1212346	Economic Geology (Metallic Ore Deposits)	2
1212305	Geotechnics	2
1912291	Engineering Statistics and Probability	3
1212304	Exploratory Drilling	2

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1212326	Field Geology	2
1212347	Geology of Ore Deposit in Iran	2
1212349	Mine surveying	2
1212307	General Surveying Practice	1
1212229	Remote Sensing & Photogeology	1
	General Course	
Semester VI (Spring)		
1212309	Exploration Geophysics I	2
1212308	Exploration Geochemistry I	2
1212313	Mineralography	1
1212312	Principles of Mine Exploitation	3
1212351	Workshop Training	2
1212348	Economic Geology of Non-Metallic ore deposits	2
1212430	Mineral Processing	3
1510256	Mining engineering Drawing	1
	General Course	
Semester VII (Fall)		
1212401	Exploration Geochemistry II	2
1212403	Well-logging	2
1212405	Exploration Project	3
1212402	Exploration Geophysics II	2
1212325	Field Geophysics I	1
1212431	Prospecting and Exploration of ore Deposits	2
1212432	Analysis and interpretation of Exploration Data	2
	Elective Course	
Semester VIII (Spring)		
1212311	Evaluation of Mineral Deposits	2
1212408	Mineral Economics	2
1212417	Water Recourses Engineering	3
2510013	English Language in mining engineering	2
	Elective Course	

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Course Code	Elective Course	Credits
301_10_12	Civil Engineering	2
302_10_12	Coal Resources & Technology	2
303_10_12	Gas & Petroleum Resources	2
305_10_12	Application of Computer in Mining	2
315_10_12	Petroleum Geology	2
318_10_12	Coal Geology	2
320_10_12	Mineral Applications	2
340_10_12	Principles of Mining	2
413_10_12	Mine Safety	2
414_10_12	Operational Research	2
417_10_12	Statistical Methods in Geology	2
419_10_12	Fossil Fuels	2
423_10_12	Mining Specific Subject	2
424_10_12	Mining Specific Subject	2
425_10_12	Mining Specific Subject	2
426_10_12	Physical Metallurgy I	2
427_10_12	Thermo Dina Metallurgy	2
428_10_12	Soil & Rock Mechanics	2
429_10_12	Chemical Mineralogy	2
430_10_12	General Physics(Electricity & Magnetism)	2
431_10_12	Physical Metallurgy Lab I	2

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1510158	Engineering Drawings 1	2
1914101	Calculus I	4
2110103	General Chemistry (major in Eng.)	3
2110104	General Chemistry Lab	1
1212102	Field Excursion	1
2410101	General Work Shop	1
2010115	General Physics I	3
	General Course	
Semester II (Spring)		
1914102	Calculus II	4
1214103	Mine Excursion	1
1214104	Mineralogy & Lab	4
1610104	Static	3
2010116	General Physics Lab. I (Heat)	1
2410151	Auto mechanic work shop	1
2010125	General Physics II	3
	General Course	
Semester III (Fall)		
1214201	Blast Hole Drilling & Blasting Technique	2
1214202	Petrology & Lab	3
1610208	Dynamics for non-Civil Students	3
1512213	Strength of Materials (Non-ME students)	2
1914251	Elementary Differential Equations	3
	General Course	
Semester IV (Spring)		
1214203	Shaft Sinking and Tunneling	2
1212206	Structural Geology (Tectonics)	2
1214206	Cartography and Photogeology	1
1514266	Fluid Mechanics	3
1212203	Physical Chemistry	2
1730150	Computer Programming	3
1914252	Engineering Mathematics	3
	General Course	
Semester V (Fall)		
1214204	Rock Mechanics & Lab	3
1214301	Mine Draining	2
1912291	Engineering Statistics and Probability	3
1212306	General Surveying	2
1212307	General Surveying Practice	1

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1710250	Electrical Engineering Fundamentals	3
	General Course	
Semester VI (Spring)		
1914271	Numerical Methods	2
1214304	Support in Mining	2
1214305	Economic Geology	2
1214306	Surface Mining Methods	2
1214307	Field Geology	1
1214308	Thermal Machines	2
1214309	Transportation in Mines	2
1212314	Machine Elements	1
1214404	Mineral Processing & Lab	3
	General Course	
Semester VII (Fall)		
1214401	Mine Ventilation	2
1214402	Underground Mining Methods	3
1214403	Technical Services in Mine	2
1214405	Evaluation of Mineral Deposits	2
1214406	Excavation Project	3
1212351	Workshop Training	2
	Elective Course	
Semester VIII (Spring)		
1212407	Mine Surveying	2
1214408	Principles of Mine Planning	2
1212408	Mineral Economics	2
	Elective Course	

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305_10_12	Application of Computer in Mines	2
315_10_12	Petroleum Geology of Deposits	2
318_10_12	Coal Geology	2
320_10_12	Mineral Application	2
340_10_12	Principles of Mining	2
413_10_12	Mining safety	2
414_10_12	Operational Research	2
417_10_12	Statistical Methods in Geology	2
419_10_12	Fossil Fuels	2
423_10_12	Mining Specific Subject	2
424_10_12	Mining Specific Subject	2
425_10_12	Mining Specific Subject	2
426_10_12	Physical Metallurgy I	2
427_10_12	Thermo Dina metallurgy	2
428_10_12	Soil & Rock Mechanics	2
429_10_12	Mineralogy for chemists	2
430_10_12	General Physics(Electricity & Magnetism)	2
431_10_12	Physical Metallurgy Lab I	2