B.S. in Mining Engineering

Four-Year Plan

Catalog Year 2014-2015

Below is the advised sequence of courses for this degree program.

The official degree requirements can be found in the University General Catalog.

Course Number and Title	Units	Prerequisites
1 st Semester		
MATH 122A/B or MATH 125 Calculus I with Applications	5/3	Appropriate Math Placement
CHEM 151 General Chemistry I	4	
ENGL 101 First-Year Composition	3	
ENGR 102 or ENGR102A & ENGR102B Introduction to Engineering	3	Concurrent enrollment or completion of MATH 122B or MATH 125
Tier I General Education	3	
2 ND SEMESTER		
MATH 129 Calculus II	3	MATH 122B or 125 with C or better
CHEM 152 General Chemistry II	4	CHEM 151
PHYS 141 Introductory Mechanics	4	MATH 122B or MATH 125; Concurrent enrollment in MATH 129
ENGL 102 First-Year Composition	3	ENGL 101
Tier I General Education	3	
3 rd Semester		
MNE 205 Introduction to Mining Engineering	3	MATH 120R or higher
MNE 296A Mineral Resource Engineering Topics	1	
CE 214 Statics	3	PHYS 141; MATH 129
MATH 223 Vector Calculus	4	MATH 129 with C or better
GEOS 251 Physical Geology	4	
Tier 1 General Education	3	
4 [™] Semester		
MNE 210 Mineralogy and Petrology for Engineers	2	CHEM 151
MNE 204 Introductions to Electric Circuits and Mine Power Sys	1	PHYS 241
CE 215 Mechanics of Solids	3	CE 214
MATH 254 Intro to Ordinary Differential Equations	3	MATH 129 with C or better
PHYS 241 Introductory Electricity and Magnetism	4	PHYS 141
Tier I General Education	3	

Mine Operations Track			
Course Number and Title	Units	Prerequisites	
Advanced Standing is required for 3xx and 4xx courses	s (See ad	dvisor for requirements)	
5 th Semester			
MNE 427 Geomechanics	4	CE 214; CE 215	
MNE 444 Geopositioning for Mining Application	3		
CE 218 Mechanics of Fluids	3	CE 214	
MNE 430 Mine Examination and Valuation	3	MNE 205	
MNE 426 Health & Safety	1		
6 th Semester			
MNE 396A Technical Trends in Mineral Resource Engineering	1		
MNE 438 Underground Mine Design	2	MNE 427; MNE 430	
1 Unit of MNE 419 Mine Planning Software	1		
MNE 436 Surface Mine Planning and Design	3		
MNE 476 Mine Ventilation	4	Corequisite CE 218	
MNE 402 or CE 310 or SIE 305 Probability & Statistics	3	For MNE 402:MATH 223. For CE 310 and SIE 305: MATH 129.	
Tier II General Education	3		
7 th Semester			
MNE 411 Mineral Processing	3	CHEM 152	
MNE 422 Sustainable Resource Development	3		
MNE 415 Rock Excavation	3	CE 215	
MNE 407 Equipment Operations Technology	3		
MNE 498 Senior Capstone	1	MNE 436; MNE 438	
Technical Elective Advisor approval needed	2		
8 th Semester			
MNE 447 Underground Construction	3	MNE 427	
MNE 498 Senior Design	2	MNE 436; MNE 438	
GEOS 304 Structural Geology	4	GEOS 251	
Technical Elective Advisor approval needed	3		

Geo Mechanics Track			
Course Number and Title	Units	Prerequisites	
Advanced Standing is required for 3xx and 4xx courses	s (See ad	dvisor for requirements)	
5 th Semester			
MNE 427 Geomechanics	4	CE 214; CE 215	
MNE 444 Geopositioning for Mining Application	3		
CE 218 Mechanics of Fluids	3	CE 214	
MNE 430 Mine Examination and Valuation	3	MNE 205	
MNE 426 Health & Safety	1		
6 th Semester			
MNE 396A Technical Trends in Mineral Resource Engineering	1		
MNE 438 Underground Mine Design	2	MNE 427; MNE 430	
1 Unit of MNE 419 Mine Planning Software	1		
MNE 436 Surface Mine Design	3		
MNE 476 Mine Ventilation	4	Corequisite CE 218	
MNE 402 or CE 310 or SIE 305 Probability & Statistics	3	For MNE 402:MATH 223. For CE 310 and SIE 305: MATH 129.	
Tier II General Education	3		
7 th Semester			
CE 343 Geotechnical Engineering and Design	4	CE 215	
CE 349 Soils Laboratory	1		
MNE 422 Sustainable Resource Development	3		
MNE 415 Rock Excavation	3	CE 215	
MNE 407 Equipment Operations Technology	3		
MNE 498 Senior Design	1	MNE 436; MNE 438	
8 th Semester			
MNE 447 Underground Construction	3	MNE 427	
MNE 498 Senior Design	2	MNE 436; MNE 438	
GEOS 304 Structural Geology	4	GEOS 251	
Technical Elective Advisor approval needed	3		
Tier II General Education	3		

Sustainable Resource Development Track			
Course Number and Title	Units	Prerequisites	
Advanced Standing is required for 3xx and 4xx courses	s (See ad	dvisor for requirements)	
5 th Semester			
MNE 427 Geomechanics	4	CE 214; CE 215	
MNE 444 Geopositioning for Mining Application	3		
CE 218 Mechanics of Fluids	3	CE 214	
MNE 430 Mine Examination and Valuation	3	MNE 205	
MNE 426 Health & Safety	1		
6 th Semester			
MNE 396A Technical Trends in Mineral Resource Engineering	1		
MNE 438 Underground Mine Design	2	MNE 427; MNE 430	
1 Unit of MNE 419 Mine Planning Software	1		
MNE 436 Surface Mine Design	3		
MNE 476 Mine Ventilation	4	Corequisite CE 218	
MNE 402 or CE 310 or SIE 305 Probability & Statistics	3	For MNE 402:MATH 223. For CE 310 and SIE 305: MATH 129.	
Tier II General Education	3		
7 th Semester			
MNE 484 Industrial & Environmental Health	3		
MNE 422 Sustainable Resource Development	3		
MNE 411 Mineral Processing	3	CHEM 152	
MNE 407 Equipment Operations Technology	3		
MNE 498 Senior Design	1	MNE 436; MNE 438	
Technical Elective Advisor approval needed	2		
8 th Semester			
MNE 498 Senior Design	2	MNE 436; MNE 438	
GEOS 304 Structural Geology	4	GEOS 251	
Technical Elective Advisor approval needed	6		
Tier II General Education	3		

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8 th Semester	MNE 498 Senior Design	1	MNE 436; MNE 438	
	Tech Elective Advisor approval needed	2		
	8 th Semester			
MNE 439 Chemistry of Flotation 3 MNE 411	MNE 439 Chemistry of Flotation	3	MNE 411	
MNE 465 Hydrometallurgy 3	MNE 465 Hydrometallurgy	3		
MNE 498 Senior Design2MNE 436; MNE 438	MNE 498 Senior Design	2	MNE 436; MNE 438	
GEOS 304 Structural Geology 4 GEOS 251	GEOS 304 Structural Geology	4	GEOS 251	
Tier II General Education 3	Tier II General Education	3		

*Tier I and II General Education Courses must meet University general education requirements. One course must be recognized by the university as meeting the Diversity Requirement.