

# 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
<b>1<sup>ST</sup> SEMESTER</b>		
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 Introduction to Engineering or ENGR102A and ENGR 102B	3	Concurrent enrollment or completion of MATH 122B or MATH 125
Tier I General Education	3	
<b>2<sup>ND</sup> SEMESTER</b>		
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	
<b>3<sup>RD</sup> SEMESTER</b>		
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
GEOS 251 Physical Geology	4	
MATH 223 Vector Calculus	4	MATH 129 with C or better
Tier 1 General Education	3	
<b>4<sup>TH</sup> SEMESTER</b>		
MNE 210 Mineralogy and Petrology for Engineers	2	CHEM 151
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
<b>Advanced Standing is required for 3xx and 4xx courses (See advisor for requirements)</b>		
<b>5<sup>TH</sup> SEMESTER</b>		
MNE 427 Geomechanics	4	CE 214; Corequisite CE 215
MNE 444 Geopositioning for Mining Application	3	
CE 218 Mechanics of Fluids	3	CE 214
MNE 407 Equipment Operations Technology	3	
MNE 430 Mine Examination and Valuation	3	MNE 205
MNE 426 Health & Safety	1	
<b>6<sup>TH</sup> SEMESTER</b>		
MNE 204 Introduction to Electric Circuits & Mine Power Systems	1	PHYS 241
MNE 396A Technical Trends in Mineral Resource Engineering	1	
MNE 438 Underground Mine Design	2	MNE 407, MNE 419, MNE 427 and MNE 430
MNE 419 Mine Planning Software	1	
MNE 436 Surface Mine Planning and Design	3	MNE 205, MNE 407, MNE 419, MNE 427
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.
<b>7<sup>TH</sup> SEMESTER</b>		
MNE 411 Mineral Processing	3	CHEM 152
MNE 422 Sustainable Resource Development	3	
MNE 415 Rock Excavation	3	CE 215
MNE 498 Senior Capstone	1	MNE 436; MNE 438
Technical Elective Advisor approval required	2	
Tier II General Education	3	
<b>8<sup>TH</sup> SEMESTER</b>		
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 required	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.

## Geomechanics Track

Course Number and Title	Units	Prerequisites
<b>Advanced Standing is required for 3xx and 4xx courses (See advisor for requirements)</b>		
<b>5<sup>TH</sup> SEMESTER</b>		
MNE 427 Geomechanics	4	CE 214; Corequisite CE 215
MNE 444 Geopositioning for Mining Application	3	
MNE 407 Equipment Operations Technology	3	
CE 218 Mechanics of Fluids	3	CE 214
MNE 430 Mine Examination and Valuation	3	MNE 205
MNE 426 Health & Safety	1	
<b>6<sup>TH</sup> SEMESTER</b>		
MNE 204 Introduction to Electric Circuits & Mine Power Systems	1	PHYS 241
MNE 396A Technical Trends in Mineral Resource Engineering	1	
MNE 438 Underground Mine Design	2	MNE 407, MNE 419, MNE 427; MNE 430
MNE 419 Mine Planning Software	1	
MNE 436 Surface Mine Planning and Design	3	MNE 205, MNE 407, MNE 419, MNE 427
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.
<b>7<sup>TH</sup> SEMESTER</b>		
CE 343 Geotechnical Engineering and Design	3	CE 215
CE 349 Soils Laboratory	1	Concurrent registration CE 343
MNE 422 Sustainable Resource Development	3	
MNE 415 Rock Excavation	3	CE 215
MNE 498 Senior Design	1	MNE 436; MNE 438
Tier II General Education	3	
<b>8<sup>TH</sup> SEMESTER</b>		
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 required	4	
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.

## Sustainable Resource Development Track

Course Number and Title	Units	Prerequisites
<b>Advanced Standing is required for 3xx and 4xx courses (See advisor for requirements)</b>		
<b>5<sup>TH</sup> SEMESTER</b>		
MNE 427 Geomechanics	4	CE 214; Corequisite CE 215
MNE 444 Geopositioning for Mining Application	3	
MNE 407 Equipment Operations Technology	3	
CE 218 Mechanics of Fluids	3	CE 214
MNE 430 Mine Examination and Valuation	3	MNE 205
MNE 426 Health & Safety	1	
<b>6<sup>TH</sup> SEMESTER</b>		
MNE 204 Introduction to Electric Circuits & Mine Power Systems	1	PHYS 241
MNE 396A Technical Trends in Mineral Resource Engineering	1	
MNE 438 Underground Mine Design	2	MNE 407, MNE 419, MNE 427; MNE 430
MNE 419 Mine Planning Software	1	
MNE 436 Surface Mine Planning and Design	3	MNE 205, MNE 407, MNE 419, MNE 427
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.
<b>7<sup>TH</sup> SEMESTER</b>		
MNE 484 Industrial & Environmental Health	3	
MNE 422 Sustainable Resource Development	3	
MNE 411 Mineral Processing	3	CHEM 152
MNE 498 Senior Design	1	MNE 436; MNE 438
Technical Elective    Advisor approval required	2	
Tier II General Education	3	
<b>8<sup>TH</sup> SEMESTER</b>		
MNE 498 Senior Design	2	MNE 436; MNE 438
GEOS 304 Structural Geology	4	GEOS 251
Technical Elective    Advisor approval required	6	
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.

## Mineral Processing Track

Course Number and Title	Units	Prerequisites
<b>Advanced Standing is required for 3xx and 4xx courses (See advisor for requirements)</b>		
<b>5<sup>TH</sup> SEMESTER</b>		
MNE 411 Mineral Processing	3	CHEM 152
MNE 444 Geopositioning for Mining Application	3	
MNE 407 Equipment Operations Technology	3	
CE 218 Mechanics of Fluids	3	CE 214
MNE 430 Mine Examination and Valuation	3	MNE 205
MNE 426 Health & Safety	1	
<b>6<sup>TH</sup> SEMESTER</b>		
MNE 204 Introduction to Electric Circuits & Mine Power Systems	1	PHYS 241
MNE 396A Technical Trends in Mineral Resource Engineering	1	
MNE 438 Underground Mine Design	2	MNE 407, MNE 419, MNE 427; MNE 430
MNE 419 Mine Planning Software	1	
MNE 436 Surface Mine Planning and Design	3	MNE 205, MNE 407, MNE 419, MNE 427
MNE 476 Mine Ventilation	4	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.
<b>7<sup>TH</sup> SEMESTER</b>		
MNE 422 Sustainable Resource Development	3	
MNE 427 Geomechanics	4	CE 214; CE 215
MNE 450 Elements of Solution Mining	3	MNE 210 or CHEE 201 or MSE 222
MNE 498 Senior Design	1	MNE 436; MNE 438
Tech Elective Advisor approval required	2	
Tier II General Education	3	
<b>8<sup>TH</sup> SEMESTER</b>		
MNE 439 Chemistry of Flotation	3	MNE 411
MNE 465 Hydrometallurgy	3	
MNE 498 Senior Design	2	MNE 436; MNE 438
GEOS 304 Structural Geology	4	GEOS 251
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.