

B.S. IN MINING ENGINEERING

CATALOG YEAR 2016-2017

Below is the *advised sequence* of courses for this degree program and prerequisites as of 2/10/16. The official degree requirements and prerequisites can be found in the University General Catalog and the prerequisites are subject to change.

COURSE NUMBER AND TITLE	UNITS	PREREQUISITES
1ST SEMESTER		
MATH 122A/B OR MATH 125 Calculus I with Applications	5/3	Appropriate Math Placement
CHEM 151 General Chemistry I OR CHEM 105A/106A	4	
ENGL 101 First-Year Composition	3	
ENGR 102A/B Introduction to Engineering OR ENGR 102	3	Concurrent enrollment or completion of MATH 122B or MATH 125
Tier I General Education	3	
2ND SEMESTER		
MATH 129 Calculus II	3	MATH 122B or 125 with C or better
CHEM 152 General Chemistry II OR CHEM 105B/106B OR MSE 110 Solid State Chemistry	4	CHEM 151 or CHEM 105A/106A
ENGL 102 OR 108 OR 109H First-Year Composition	3	ENGL 101, 107
PHYS 141 Introductory Mechanics OR PHYS 161H	4	MATH 122B or MATH 125 concurrent enrollment or completion of MATH 129
Tier I General Education	3	
3RD SEMESTER		
CE 214 Statics	3	PHYS 141 or PHYS 161H; MATH 129
GEOS 251 Physical Geology	4	
MATH 223 Vector Calculus	4	MATH 129 with C or better
MNE 205 Introduction to Mining Engineering	3	MATH 120R or higher
MNE 296A Mineral Resource Engineering Topics	1	
MNE 297A Underground Mine Safety (offered the week prior to start of the fall semester)	1	Concurrent enrollment or completion of MNE 205
Tier 1 General Education	3	
4TH SEMESTER		
CE 215 Mechanics of Solids	3	CE 214
MATH 254 Intro to Ordinary Differential Equations	3	MATH 129 or 223 with C or better
MNE 210 Mineralogy and Petrology for Engineers	2	CHEM 151 or CHEM 105A/106A
PHYS 241 Introductory Electricity and Magnetism OR PHYS 261H	4	PHYS 141 or PHYS 161H; MATH 129
Tier I General Education	3	

MINE OPERATIONS TRACK

COURSE NUMBER AND TITLE

UNITS

CURRENT PREREQUISITES FOR UPPER DIVISION COURSES CAN BE FOUND IN THE UA GENERAL CATALOG

ADVANCED STANDING IS REQUIRED FOR 3XX AND 4XX COURSES (SEE ADVISOR FOR REQUIREMENTS)

5TH SEMESTER

CE 218 Mechanics of Fluids	3
MNE 422 Sustainable Resource Development	3
MNE 426 Health & Safety	1
MNE 427 Geomechanics	4
MNE 430 Mine Examination and Valuation	3
MNE 444 Geopositioning for Mining Applications	3

6TH SEMESTER

MNE 204 Introduction to Electric Circuits & Mine Power Systems	1
MNE 396A Technical Trends in Mineral Resource Engineering	1
GEOS 304 Structural Geology	4
MNE 419 Mine Planning Software (offered the week prior to start of the SPRING semester)	1
MNE 436 Surface Mine Design	3
MNE 438 Underground Mine Design	2
MNE 476 Mine Ventilation	4

7TH SEMESTER

MNE 411 Mineral Processing	3
MNE 415 Rock Excavation	3
MNE 407 Equipment Operations Technology	3
MNE 498 Senior Capstone	1
Tier II General Education	3
Technical Elective- See major advisor for approval	2

8TH SEMESTER

MNE 402 Probability & Statistical Concepts in Geologic Media OR CE 310 Probability & Statistics in Civil Engineering OR SIE 305 Introduction to Probability & Statistics	3
MNE 447 Underground Construction	3
MNE 498 Senior Design	2
Technical Elective- See major advisor for approval	2
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

CURRENT PREREQUISITES FOR UPPER DIVISION COURSES CAN BE FOUND IN THE UA GENERAL CATALOG

ADVANCED STANDING IS REQUIRED FOR 3XX AND 4XX COURSES (SEE ADVISOR FOR REQUIREMENTS)

5TH SEMESTER

CE 218 Mechanics of Fluids	3
MNE 422 Sustainable Resource Development	3
MNE 426 Health & Safety	1
MNE 427 Geomechanics	4
MNE 430 Mine Examination and Valuation	3
MNE 444 Geopositioning for Mining Applications	3

6TH SEMESTER

MNE 204 Introduction to Electric Circuits & Mine Power Systems	1
MNE 396A Technical Trends in Mineral Resource Engineering	1
GEOS 304 Structural Geology	4
MNE 419 Mine Planning Software (offered the week prior to start of the SPRING semester)	1
MNE 436 Surface Mine Design	3
MNE 438 Underground Mine Design	2
MNE 476 Mine Ventilation	4

7TH SEMESTER

CE 343 Geotechnical Engineering and Design	3
CE 349 Soils Laboratory	1
MNE 407 Equipment Operations Technology	3
MNE 415 Rock Excavation	3
MNE 498 Senior Design	1
Tier II General Education	3

8TH SEMESTER

MNE 402 Probability & Statistical Concepts in Geologic Media OR CE 310 Probability & Statistics in Civil Engineering OR SIE 305 Introduction to Probability & Statistics	3
MNE 447 Underground Construction	3
MNE 498 Senior Design	2
Technical Elective- See major advisor for approval	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.

SUSTAINABLE RESOURCE DEVELOPMENT TRACK

COURSE NUMBER AND TITLE

UNITS

CURRENT PREREQUISITES FOR UPPER DIVISION COURSES CAN BE FOUND IN THE UA GENERAL CATALOG

ADVANCED STANDING IS REQUIRED FOR 3XX AND 4XX COURSES (SEE ADVISOR FOR REQUIREMENTS)

5TH SEMESTER

CE 218 Mechanics of Fluids	3
MNE 422 Sustainable Resource Development	3
MNE 426 Health & Safety	1
MNE 427 Geomechanics	4
MNE 430 Mine Examination and Valuation	3
MNE 444 Geopositioning for Mining Applications	3

6TH SEMESTER

MNE 204 Introduction to Electric Circuits & Mine Power Systems	1
MNE 396A Technical Trends in Mineral Resource Engineering	1
GEOS 304 Structural Geology	4
MNE 419 Mine Planning Software (offered the week prior to start of the SPRING semester)	1
MNE 436 Surface Mine Design	3
MNE 438 Underground Mine Design	2
MNE 476 Mine Ventilation	4

7TH SEMESTER

MNE 411 Mineral Processing	3
MNE 407 Equipment Operations Technology	3
MNE 484 Industrial & Environmental Health	3
MNE 498 Senior Design	1
Tier II General Education	3
Technical Elective- See major advisor for approval	2

8TH SEMESTER

MNE 402 Probability & Statistical Concepts in Geologic Media OR CE 310 Probability & Statistics in Civil Engineering OR SIE 305 Introduction to Probability & Statistics	3
MNE 498 Senior Design	2
Technical Elective- See major advisor for approval	5
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

CURRENT PREREQUISITES FOR UPPER DIVISION COURSES CAN BE FOUND IN THE UA GENERAL CATALOG

ADVANCED STANDING IS REQUIRED FOR 3XX AND 4XX COURSES (SEE ADVISOR FOR REQUIREMENTS)

5TH SEMESTER

CE 218 Mechanics of Fluids	3
MNE 411 Mineral Processing	3
MNE 422 Sustainable Resource Development	3
MNE 426 Health & Safety	1
MNE 430 Mine Examination and Valuation	3
MNE 444 Geopositioning for Mining Applications	3

6TH SEMESTER

MNE 204 Introduction to Electric Circuits & Mine Power Systems	1
MNE 396A Technical Trends in Mineral Resource Engineering	1
GEOS 304 Structural Geology	4
MNE 419 Mine Planning Software (offered the week prior to start of the SPRING semester)	1
MNE 436 Surface Mine Design	3
MNE 438 Underground Mine Design	2
MNE 476 Mine Ventilation	4

7TH SEMESTER

MNE 407 Equipment Operations Technology	3
MNE 427 Geomechanics	4
MNE 450 Elements of Solution Mining	3
MNE 498 Senior Design	1
Tier II General Education	3
Tech Elective- See major advisor for approval	1

8TH SEMESTER

MNE 402 Probability & Statistical Concepts in Geologic Media OR CE 310 Probability & Statistics in Civil Engineering OR SIE 305 Introduction to Probability & Statistics	3
MNE 439 Chemistry of Flotation	3
MNE 465 Hydrometallurgy	3
MNE 498 Senior Design	2
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.