

## MINING ENGINEERING UNDERGRADUATE PROGRAM OF STUDY

### Requirements:

A minimum C grade is required in all MG EN program course categories and Emphasis courses.

Students must meet with the academic advisor to select an emphasis for their degree program.

Fall Semester		Spring Semester		Total hr/year
CHEM 1210 & 1215 - PS		5 WRTG 1010 - WR1	3	
MATH 1210 Calculus I QL		4 MATH 1220 Calculus II	4	
QUEST 1120 OR 1130 BFDV		3 Gen Ed - HF	3	
MG EN 1050 Computational Skills		2 GEO 1100 Evolving Earth-LS	3	
MG EN 3010 Intro to Mining		1 MG EN 3015 Mine Visits (wk before fall)	1.0	
MG EN 4990 Seminar		0.5		
TOTAL HOURS		15.5 TOTAL HOURS	14.0	29.5
Fall Semester		Spring Semester		
Requirement	Hours	Requirement	Hours	
PHYCS 2210 Phys for Science/Eng I		4 PHYCS 2220 Phys for Science/Eng II	4	
MET E 1610 Intro to Metallurgy	1.5	MATH 2210 Calculus III	3	
MG EN 2400 Surveying		3 CVEEN 2010 Statics or MET E 2300	2	
American Institutions - AI		3 GEO 3065 Structural Geology	2	
WRTG 2010 - WR2		3 GEO 3070 Petrology for Engineers	2	
MG EN 4990 Seminar		0.5 Core Elective	3	
TOTAL HOURS		15.0 TOTAL HOURS	16.0	31.0
Fall Semester		Spring Semester		
Requirement	Hours	Requirement	Hours	
<b>Core 1</b>		3 ECE 2200 Electrical Eng	1.5	
MG EN 5030 Materials Handling		2 MG EN 5010 Underground Methods	3	
MATH 2250 ODE		4 MG EN 5150 Mechanics of Materials** QI	3	
MG EN 5020 Surface Mining Methods		3 MG EN 5320 Hydraulics	3	
CH EN 2300 Thermodynamics		2 MG EN 5350 Mining Safety/Health -1	1	
MG EN 4990 Seminar		0.5 MATH 3070 Statistics	4	
TOTAL HOURS		14.5 TOTAL HOURS	15.5	30.0
Fall Semester		Spring Semester		
Requirement	Hours	Requirement	Hours	
MG EN 5050 Ventilation		3 Gen Ed FF	3	
MG EN 5160 Rock Mechanics		3 MG EN 4080 Permitting & Reclamation	2	
MG EN 5340 Mineral Evaluation*		3 MG EN 5090 or 5120 Sr Design - CW/QI	3	
<b>Core 2</b>		3 MG EN 5170 Mine Finance	2	
MG EN 4990 Seminar		0.5 Core Elective	3	
Gen Ed IR		Add Course to meet hrs for graduation if 3 needed***	3	
TOTAL HOURS		15.5 TOTAL HOURS	16	31.5
***TOTAL PROGRAM HOURS				122

\*MUST BE TAKEN PRIOR TO MG EN 5120 or 5090

\*\*MUST BE TAKEN IN SPRING OF JR YEAR IN ORDER TO GRADUATE THE FOLLOWING SPRING



# Mining Engineering Undergraduate Emphases

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*Selecting an emphasis allows students to focus on areas of more interest to them during their academic program. Students should choose their emphasis by the spring of their sophomore year. An emphasis does not limit the career opportunities available at graduation.*

## **Geomechanics and Spatial Analytics**

This emphasis is ideal for those who want to develop technical skills and expertise in geomechanics, spatial analysis, or remote sensing, using techniques that have application in mining and other natural resource-related fields. Courses will allow students to develop skills in diverse areas, including characterizing rock properties, evaluating slope stability, understanding ore deposits, and analyzing spatial data collected using Unmanned Aerial Vehicles (UAVs) and Terrestrial Lidar Scanners (TLS).

## **Mining Operations Management**

This emphasis is ideal for those who wish to manage mine or industrial operations. Students will learn material and acquire skills in effectively utilizing the two critical components of any operation: people and the system. Available topics include how to manage people and organizations, along with engineering courses to simulate a complex system so that management decisions can be compared quantitatively.

## **Mining Safety & Health**

Students in this emphasis will obtain additional background valuable for those wanting to pursue an industry safety and health position. Courses will provide a broad, practical foundation in key areas, including safety and health management, risk assessment, and their application within engineering situations.