

# MINING TECHNOLOGY (MNG)

## MNG 102 (3 credit hours)

### Introduction to Mine Engineering and Mining Technology

Provides orientation to the mining engineering and mining technology professions. Includes introduction to key mining engineering activities and functions, mining methods and equipment, and health and safety subsystems. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## MNG 123 (4 credit hours)

### Mining Electricity I

Qualifies students to take the Mine Electrical Certification Exam administered by Kentucky Office of Mine Safety and Licensing. Includes topics of basic electricity, direct current circuits, impedance, reactance, power, electrical energy, permissibility, underground and surface law, solid-state, and national instruments and applications. Lecture: 4.0 credit hours (60 contact hours).

**Co-requisite:** MNG 125.

**Attributes:** Technical

**Components:** LEC: Lecture

## MNG 125 (1 credit hours)

### Mining Electricity I Lab

Encompasses an elementary lab for mining technology students. Includes construction of circuits using electrical-measuring instruments in the analysis of the circuits with focus on electrical safety. Emphasizes mining electrical equipment circuits, permissibility and maintenance. Laboratory: 1.0 credits (30 contact hours).

**Co-requisite:** MNG 123.

**Attributes:** Technical

**Components:** LAB: Laboratory

## MNG 150 (3 credit hours)

### Mining Laws

Provides the theory, intent, construction and application of state and federal regulations pertaining to underground and surface coal mining. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## MNG 160 (3 credit hours)

### Elements of Underground Mining

Introduces underground mining methods, operations, and procedures. Includes topics of miners' rights, work environments, health and safety standards, roof control, mine ventilation, transportation, communication, compressed gas cylinders, explosives, mine gases and instruments, electrical hazards, accident prevention, and emergency procedures. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## MNG 161 (1 credit hours)

### Elements of Underground Mining Lab

Applies the principles and policies of mining methods, operations, and procedures in a controlled laboratory environment. Focuses on the skills associated with the information taught in the paired underground mining lecture course. Pre-requisite OR Lab: 1.0 credit (30 contact hours).

**Co-requisite:** MNG 160.

**Attributes:** Technical

**Components:** LAB: Laboratory

## MNG 170 (2 credit hours)

### Elements of Surface Mining

Introduces study of surface mining methods, operations, and procedures. Includes topics of miners' rights, work environments, ground control, health and safety standards, transportation, communication, compressed gas cylinders, explosives, mine gases and instruments, electrical hazards, accident prevention, and emergency procedures. Lecture: 2.0 credits (30 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## MNG 180 (3 credit hours)

### Environmental Issues in Mining

Introduces topic of how underground and surface mining operations impact the environment in a multitude of ways. Includes basic information related to geological formations in mining and structure of coal material. Relates methods to mitigate negative effects of mining. Discusses methods to repair damage to environment. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## MNG 274 (3 credit hours)

### Mine Safety

Introduces mine safety, program organization, safety training, mine rescue operations, and the role of state and federal governments in mine safety. Includes field trips as an integral part of the course. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

## MNG 286 (3 credit hours)

### Roof Control and Ventilation

Involves an in-depth study of roof and rib control, and coal mine ventilation. Includes methods of inspection and reporting potential safety hazards, reading roof control plans, processes and procedures involving mine resistance, law, and minimum standards. Lecture: 3.0 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture