

MINING ENGINEERING, MINOR

Requirements for a minor may be completed at any campus location offering the specified courses for the minor. Students may not change from a campus that offers their major to a campus that does not offer their major for the purpose of completing a minor.

Program Description

The minor in Mining Engineering offers a specialized program for students in many other broad-based, technical majors, such as those in engineering or science. The demand for professionals with the training and skills for a career in the minerals- and energy-recovery profession far exceeds the supply. Mineral exploration and evaluation, mine development, marketing, health and safety, environmental protection, and mine management are all areas of industry employment. It is recommended that students wishing to pursue this minor come from an engineering or science major. As a result, the selection of this minor can provide additional career options for students in a wide range of offerings at Penn State.

What is Mining Engineering?

Mining engineers extract materials required for the survival of society while being stewards of the environment. They solve unique engineering challenges. Their workplace can often be in an out-of-the-office setting such as a surface or underground mine—or an office setting using cutting-edge technology and software simulations to plan solutions to problems. Worldwide, mining companies extract more than 100 different commodities that are used in nearly every industrial sector. There's a saying: if it can't be grown, it has to be mined! The United Nations has recognized 17 goals as a part of their "2030 Agenda for Sustainable Development." Minerals, including 50 identified as 'critical' by the US government, will be instrumental in achieving several of these goals. These minerals are required for several applications, including clean energy transition, aerospace, defense, etc. A mining engineer thus stays at the forefront of the economy, environment, and society.

You Might Like This Program If...

- You want to work in an out-of-the-office setting.
- You are a "hands-on" problem solver and like to get your hands dirty, both literally and figuratively.
- You want to apply different engineering disciplines to your problem solving, and prefer to not be focused on just one.
- You want to join a high-tech industry that provides the basic building blocks, minerals and other materials, used in nearly every industry today.

Program Requirements

Requirement	Credits
Requirements for the Minor	20

Requirements for the Minor

A grade of C or better is required for all courses in the minor, as specified by Senate Policy 59-10 (<https://senate.psu.edu/policies-and-rules-for-undergraduate-students/59-00-minors-and-certificates/#59-10>). In addition, at least six credits of the minor must be unique from the prescribed courses required by a student's major(s).

Code	Title	Credits
Prescribed Courses		
<i>Prescribed Courses: Require a grade of C or better</i>		
MNG 230	Introduction to Mining Engineering	3
MNG 331	Rock Mechanics	3
MNG 404	Mine Materials Handling Systems	2
MNG 410	Underground Mining	3
MNG 412	Mineral Property Evaluation	3
MNG 422	Mine Ventilation and Air Conditioning	3
MNG 441	Surface Mining Systems and Design	3

Academic Advising

The objectives of the university's academic advising program are to help advisees identify and achieve their academic goals, to promote their intellectual discovery, and to encourage students to take advantage of both in-and out-of class educational opportunities in order that they become self-directed learners and decision makers.

Both advisers and advisees share responsibility for making the advising relationship succeed. By encouraging their advisees to become engaged in their education, to meet their educational goals, and to develop the habit of learning, advisers assume a significant educational role. The advisee's unit of enrollment will provide each advisee with a primary academic adviser, the information needed to plan the chosen program of study, and referrals to other specialized resources.

READ SENATE POLICY 32-00: ADVISING POLICY (<https://senate.psu.edu/policies-and-rules-for-undergraduate-students/32-00-advising-policy/>)

University Park

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