

MINING ENGINEERING, B.S.

Begin Campus: Any Penn State Campus

End Campus: University Park

Program Educational Objectives

1. Within three to five years after graduation students are expected to be advancing in their career in the minerals industry and adapting to new situations and emerging problems, through the application of general engineering-science skills and the core technical problem-solving and design practices of the mining engineering profession, with an understanding of the need for lifelong learning.
2. Within one to three years after graduation, students are expected to be communicating effectively.
3. Within one to three years after graduation, students are expected to be functioning effectively as individuals or as members of teams.
4. Upon graduation, students are expected to demonstrate an understanding of the importance of mining to society, realizing that, in contemporary society, attention to safety and health, responsibility to the environment, and ethical behavior are required without exception.
5. Students are expected to prepare for and attain licensure as a Professional Engineer after graduation, if so desired.

Student Outcomes

Student outcomes describe what students are expected to know and be able to do by the time of graduation. The Mining Engineering program is designed to enable students to:

1. Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. Communicate effectively with a range of audiences
4. Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. Acquire and apply new knowledge as needed, using appropriate learning strategies.