

MINING ENGINEERING



Mining engineers find, develop and recover resources needed to support the daily needs of society, from the minerals that support our daily health to the materials used for roads, buildings, computers and cell phones. The mining engineering discipline requires a broad range of basic engineering skills along with the ability to apply specialized technical knowledge in the areas of geotechnical engineering, explosives engineering, mine ventilation, mine power systems, automation & control, environmental engineering and extractive metallurgy.

FOR MORE INFORMATION, VISIT THESE WEBSITES:

Mining Engineering: www.engr.uky.edu/mng

University of Kentucky: www.uky.edu

College of Engineering: www.engr.uky.edu

Admissions: www.uky.edu/admissions

Visit Engineering: www.engr.uky.edu/visit

Scholarships: www.uky.edu/scholarships

Mining Engineering Curriculum Sample

This is a sample list of classes a student will take to pursue a degree in mining engineering. In addition to the mining engineering curriculum, students must complete the pre-engineering requirements and general education coursework, called UK Core.

Note: This sample represents one of several paths to a mining engineering degree. Consult the departmental website for details on specific paths.

Freshman Year

Engineering Exploration I and II	3
Fundamentals of Engineering Computing	2
Calculus I and II	8
Composition & Communication I and II	6
Chemistry I and Physics I and Lab	9
UK Core course	3
Total hours	31

Sophomore Year

Calculus III and IV	7
Statics	3
Physics II	4
Principles of Physical Geology	4
Mining Engineering Fundamentals	3
Fundamentals of Geology	3
Elements of Mine Design	3
Mine Safety and Health Management	2
Deformable Solids and Lab	4
Explosives and Blasting	2
Total hours	35

Junior Year

Dynamics	3
Introduction to Fluid Mechanics	4
Mine Surveying	2
Minerals Processing	3
Intro to Mine Systems Analysis	3
Electrical Circuits and Mining Machinery	3
Professional Development of Mining Engineers	3
Mine Systems and Economics	3
Surface Mine Design	3
Rock Mechanics	4
UK Core Course	3
Total hours	34

Senior Year

Mine Plant Machinery	3
Mine Ventilation	3
Underground Mine Design	3
Environmental Control System Design	3
Mine Design Project I and II	4
Minerals Processing Technical Elective	3
Technical Elective	3
UK Core Courses	6
Total hours	28

Pursuing Mining Engineering at UK

The mining engineering program at the University of Kentucky is one of only 12 accredited programs in the United States. Faculty members are well-known and highly respected in their specialized areas throughout academia and the industry. This ensures that students will receive the highest-quality education and training from instructors with practical knowledge of the discipline. Hands-on instruction is provided in state-of-the-art laboratories that house modern equipment used in each of the specialty areas of mining engineering.

Career Prospects in Mining Engineering

Retirements and growth in the mineral sector over the next 5-10 years are expected to create many openings for talented mining engineering graduates at starting salaries in the range of \$60,000 to \$72,000. Due to the number of expected retirements, career advancement is sure to be faster than most other professions. Opportunities in the mining engineering profession will always be available because of the need to provide resources for the nation and the world in a safe and environmentally friendly manner.

Undergraduate Research in Mining Engineering

Paid undergraduate research opportunities are available nationally and internationally. Students have the opportunity to work with faculty members in their labs in areas such as blasting, automation, mine ventilation, recycling and extracting rare-earth elements. Regardless of your interests, mining engineering provides numerous avenues for pursuing your passions.

The University of Kentucky's mining engineering program is accredited by the Engineering Accreditation Commission of ABET, www.abet.org.

Revised August 2019. Information subject to change. For the most up-to-date information on the UK College of Engineering, visit www.engr.uky.edu.