Mining Engineering (ME)  
Distance Graduate Degree Program  
Department of Mining and Nuclear Engineering

Program Description
Get on the fast track to management and executive positions through a master of engineering degree in mining engineering. Graduates of Missouri S&T's mining program are leaders in their fields and pursue careers in raw material production, all aspects of mining (coal, metals, aggregates, etc.) and related fields, highway, dam and power station construction, and weapons systems. This program is one of the best in the nation.

Through this program, students acquire an advanced understanding of mining processes, an ability to design and select equipment for specific operations and an ability to use cutting-edge engineering tools and knowledge to solve mining-related problems in an economical, safe and efficient way.

This program takes advantage of current developments in online learning; however, for students enrolled in a laboratory section, there may be a three-day to one-week laboratory session required on the Missouri S&T campus.

Credit Hours to Complete: A total of 30 credit hours are required to complete the degree, which includes a limited research component.

Course Length: 16 weeks (fall/spring); 8 weeks (summer)

Delivery Format: Courses are delivered over the Internet, via live streaming video; collaborative learning software includes WebEx and Blackboard; classes are archived online for review and easy access. For some courses, DVDs or CDs are mailed to the students to allow flexibility with learning.

Course Management Software: Blackboard.

Admission Requirements
Bachelor's degree in physical science or engineering, GPA ≥ 2.75, or bachelor's degree in another subject, along with work experience in mining, may be substituted, if approved; GRE Q 148 or greater and GRE AW of at least 3.5. Candidates may choose to enter through the Graduate Certificate Program first, which does not require a GRE. International requirements: TOEFL score of at least 88 iBT, in addition to GRE scores.

Department Contact Information

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Application Deadlines:  
Fall Semester - August  
Spring Semester - December  
Summer Session - May
Explosives Engineering
This certificate program is designed to provide formalized education in the area of Explosives Engineering. Students will be exposed to the theoretical and practical approaches of explosives engineering. Students will learn analysis and design of explosive-related systems and both natural and built structure effects.

Curriculum:*  
The following courses are required:  
- EXP ENG 5612 Principles of Explosives Engineering  
- EXP ENG 5622 Blasting Design and Technology  

Two of the following courses are required:  
- EXP ENG 5001 Pyrotechnics Show Design  
- EXP ENG 5512 Commercial Pyrotechnics Operations  
- EXP ENG 5513 Stage Pyrotechnics & Special Effects  
- MIN ENG 4922 Tunneling & Underground Construction Techniques  
- EXP ENG 6000 Special Problems  
- EXP ENG 6001 Regulatory Issues in the Explosives Industry  
- EXP ENG 6412 Environmental Controls for Blasting  
- EXP ENG 6212 Theory of High Explosives

Explosives Technology
This certificate program is designed to provide formalized education in the area of Explosives. Students will be exposed to the theoretical and practical approaches of explosives technology and will learn analysis and design of explosive-related systems and both natural and built structure effects.

Curriculum:*  
Two required courses:  
- EXP ENG 5612 Principles of Explosives Engineering  
- EXP ENG 5622 Blasting Design and Technology  

Choose any two courses from the list below:  
- Exp Eng/MIN ENG 5112 Explosives Handling And Safety  
- EXP ENG/MIN ENG 5512 Commercial Pyrotechnics Operations  
- EXP ENG/MIN ENG 5513 Stage Pyrotechnics and Special Effects  
- MIN ENG 4922 Tunneling & Underground Construction Techniques  
- EXP ENG 6001 Regulatory Issues in the Explosives Industry  
- Exp Eng/MIN ENG 6312 Scientific Instrumentation For Explosives Testing & Blasting

Mining Engineering
This certificate program is designed to provide post-graduate formalized education in Mining Engineering. Courses cover the fundamental principles and methods of mining engineering, analysis and design of mining-related systems and mining enterprises.

Curriculum:*  
The following five courses are required:  
- MIN ENG 4113 Mine Atmosphere Control I  
- MIN ENG 4932 Underground Mining Methods and Equipment  
- MIN ENG 4933 Surface Mining Methods and Equipment  
- MIN ENG 4823 Rock Mechanics I or equivalent  
- MIN ENG 4742 Environmental Aspects of Mining

*Curriculum is subject to change. Please contact the department for up-to-date information on courses. Other courses approved by the department may be substituted for any of the above listed courses on a case-by-case basis. The administrative coordinators must approve the substitution prior to enrolling in the course.

Admission Requirements
The certificate programs are open to all persons holding a BS (in applied science, technology or engineering), MS, or PhD degree and who have a minimum of 12-months of post-BS professional employment experience.

Once admitted to the program, the student must take four designated courses. In order to receive a graduate certificate, the student must have an average cumulative grade of 3.0 or better in the certificate courses.

Students admitted to the certificate program will have non-matriculated status; however, if they complete the four-course sequence with a grade of B or better in each of the courses taken, they will be admitted to the Mining Engineering master's degree program, if they so choose. The certificate credits taken by students admitted to the MS program will count towards their master's degrees. Students who do not have all of the prerequisite courses necessary to take the course in the certificate program will be allowed to take “bridge” courses at either the graduate or undergraduate level to prepare for the formal certificate courses.