

# MINING AND MINERAL ENGINEERING

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## B.S., M.S., Ph.D. Degrees

### B.S., MINING ENGINEERING

As the nation's northernmost accredited mining engineering program, our mission is to advance and disseminate knowledge for the exploration, evaluation, development and efficient production of mineral and energy resources with the assurance of the health and safety of persons involved and protection of the environment, through creative teaching, research and public service with an emphasis on Alaska, the North and its diverse peoples.

The mining engineering program emphasizes engineering as it applies to the exploration and development of mineral resources and the economics of the business of mining. The program offers specializations in exploration, mining or mineral beneficiation.

Students are prepared for job opportunities with mining and construction companies, consulting and research firms, equipment manufacturers, investment and commodity firms in the private sector, as well as with state and federal agencies.

The mining engineering program's educational objectives are to graduate competent engineers who:

- apply their engineering skills and knowledge with consideration to health, safety and the environment,
- pursue careers in mineral-related industries,
- are active among the local and professional mining communities, and
- seek professional advancement of mining engineering technology and practices.

Mining engineers may aspire to, and achieve, the highest positions in the industry: operating or engineering management, government agency director or entrepreneur. Starting salaries are among the highest in the engineering profession.

Students may initiate their mining engineering program in Anchorage and transfer to Fairbanks upon completion of their freshman or sophomore year. Anchorage students intending to transfer to Fairbanks should contact the faculty of the UAF Mining Engineering Department.

Candidates for the B.S. degree in mining engineering must take the State of Alaska Fundamentals of Engineering examination. The Fundamentals of Engineering examination is the first step toward registration as a professional engineer.

Learn more information about the mining engineering program's mission, goals and educational objectives (<https://www.uaf.edu/cem/>).

Minimum Requirements for Mining Engineering Bachelor's Degree: 124 credits

Learn more about the bachelor's degree in mining engineering (<https://uaf.edu/academics/programs/bachelors/mining-engineering.php>), including an overview of the program, career opportunities and more.

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### M.S., MINING ENGINEERING

The mining engineering program emphasizes engineering as it applies to the exploration and development of mineral resources and upon the economics of the business of mining. The program offers specialization in exploration, mining or mineral beneficiation.

Students are prepared for job opportunities with mining and construction companies, consulting and research firms, equipment manufacturers, investment and commodity firms in the private sector, as well as with state and federal agencies.

Mining engineers may aspire to, and achieve, the highest positions in the industry: operating or engineering management, government agency director or entrepreneur.

Minimum Requirements for Mining Engineering Master's Degree: 30-36

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### PH.D., ENGINEERING

Engineers use knowledge of the mathematical and natural sciences to develop economical uses of materials and forces of nature for human benefit. The professional practice of engineering requires sophisticated skills, the use of judgment and the exercise of discretion. The basic education necessary for the professional practice of engineering is provided by the engineering bachelor's and master's degrees. Doctoral-level education requires independent research that generates fundamental advances in technology and discovers new knowledge for the benefit of society. Engineering Ph.D. degrees provide leadership in scientific research, academia and industrial research and development. The Ph.D. degree in engineering draws on the combined strength of the College of Engineering and Mines and offers opportunities for engineers at other UA campuses to participate.

Minimum Requirements for Engineering Doctoral Degree: 36 credits

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#### College of Engineering and Mines

Department of Mining and Mineral Engineering (<https://www.uaf.edu/cem/programs/mining-engineering/>)  
907-474-7388

## Programs Degrees

- B.S., Mining Engineering (<https://catalog.uaf.edu/bachelors/mining-engineering-bs/>)
- M.S., Mining Engineering (<https://catalog.uaf.edu/masters/mining-engineering/>)
- Ph.D., Engineering (<https://catalog.uaf.edu/phd/engineering/>)

## Minor

- Minor, Mining Engineering (<https://catalog.uaf.edu/minors/mining-engineering/>)