



# UNSW Engineering

## Bachelor of Engineering (Honours) (Mining Engineering)

### What do mining engineers do?

Mining Engineering is the science of extracting and processing mineral resources from the earth in a safe and sustainable way. Mining engineers focus on sustainable recovery, planning, processing, marketing and financial management of mineral resources.

Fundamental engineering principles and their application to complex mining systems play a large role in this career. Modern mining engineers rely on technical skills in areas such as geology and mineral economics, geomechanics, mine design & planning, automation, data analytics, technology integration and protection of our environments to achieve safe and productive sustainable mining practices.

### What will your study involve?

This degree provides a comprehensive understanding of how complex mining systems work to meet the global need for minerals. It gives students a solid foundation in fundamental engineering principles and

the essential elements of mining. This includes geology, geomechanics, mine planning and design, financial evaluation, safety and risk assessment, mineral processing, and data analytics.

### UNSW Minerals and Energy Resources Engineering

- We're UNSW's top ranked subject - 2nd in Australia and 3rd globally for Mineral and Mining Engineering (QS Subject Rankings 2024).
- We have strong relationships with Australia's minerals, oil and gas industry through sponsored scholarships and work experience programs.
- UNSW is at the forefront of mining education & research including space resources engineering, low emission technologies, CO2 storage and geothermal energy, with 73 years of research, development, and education experience.
- Study in our controlled mine environment, geomechanics, mineral processing, ventilation, and petrophysics laboratories, VR/AR simulators, drilling simulator, X-ray CT facility, and more.

### Program details

**Lowest Selection Rank (2024):** 90

**Duration:** Four-year embedded honours degree

**Study areas:** Geotechnical Engineering, Mine Design and Planning, Mining Engineering, Mining Management and Sustainability, Mining Systems, Mining Technologies, Rock Breakage

**Assumed knowledge:** HSC level Mathematics Extension 1, Physics

**Portfolio Entry:** The Faculty of Engineering Admission Scheme (FEAS) within the UNSW Portfolio Entry Scheme offers early conditional offers, giving you the opportunity to demonstrate your passion and talent alongside your ATAR.

Successful applicants will receive an early conditional offer with an adjusted ATAR entry requirement up to 10 ATAR points below the lowest selection rank for a specific degree or range of related degrees, find out more at [unsw.to/feas](https://unsw.to/feas)

### Accreditation

Your Bachelor of Engineering (Honours) degree is recognised globally, is accredited with Engineers Australia, and is also acknowledged by the Washington Accord, which lets you work in over 20 countries across the globe upon graduation.

### Career options

Mining engineering graduates have many career options available to them.

Decide if you want to work in the field or in the office. Graduates enjoy successful careers in mining companies at the operational or corporate level, service supply companies, in quarrying and tunnelling industries, consultancies, investment firms and government.

### Student Testimonials

"I chose Mining Engineering because I love the outdoors, travelling and being active. Here, I can combine my love of the outdoors with problem-solving, innovation, creativity and my interest in geology. I'd like to share my passion for mining with people from all walks of life."

**Annette Au, Mining Engineering**



### Example study plan

	TERM 1			TERM 2			TERM 3		
YEAR 1	Introduction to Engineering Design & Innovation	Mathematics 1A	Elective	Computing for Engineers	Mathematics 1B	Physics 1A	Engineering Mechanics	Investigating Earth and its Evolution	
YEAR 2	Fluid and Particle Mechanics	Mechanics of Solids	Engineering Mathematics 2E	Mineral Resource Geology & Geophysics	Numerical Methods & Statistics	Elective	Minerals and Processing	Engineering Design and Professional Practice	
YEAR 3	Resource Estimation	Mining Geomechanics	Mining Systems	Elective	Mine Planning	Socio-Environmental Aspects of Mining	Rock Breakage	Mine Ventilation	
YEAR 4	General Education	Mine Geotechnical Engineering	Thesis A	Mine Design & Feasibility Project	Elective	Thesis B	Mine Management	Thesis C	General Education

You'll be required to complete 60 days of Industrial Training throughout your degree.

This is a sample degree outline only and may be subject to change. Please refer to the UNSW Handbook for further information and relevant course codes.