

## Program Code

BENGH

## Program Minimum Units

96

## Standard Duration

4 Years

## Program Faculty

Faculty of Engineering, Computer and Math Sciences

## AQF Level

08

## Academic Year

2022

These Program Rules should be read in conjunction with the University's policies (<http://www.adelaide.edu.au/policies>).

## Overview

This program focuses on analysis and design and combines knowledge from geotechnical, environmental, structural and water engineering, geology, computing, mathematics and finance. All Engineering students will complete a common first year before branching out into their disciplines and/or a choice of thematic minors. The first two years of the Mining Engineering program focus on building engineering, mathematics and science foundations that are further developed in the final two years. The third and fourth year concentrate on developing knowledge and skills in rock mechanics, mine design and management and socio-environmental aspects of mining. A key attribute of the Mining Engineering program at the University of Adelaide is that the curriculum was developed, and is continually updated, by industry and Mining Education Australia, which is a world-leading collaboration involving the University of Adelaide and three Australian universities in NSW, Queensland and WA. The program emphasises engineering problem-solving, analysis and design, computer-based methods, and research, communication and management skills.

The Bachelor of Engineering (Honours) (Mining) is an AQF Level 8 qualification with a standard full-time duration of 4 years. This program is accredited by Engineers Australia and graduates of the program qualify for professional membership of Engineers Australia.

## Conditions

### Conditions of Enrolment

1. *Interruption of program:* Students must apply for permission from the Executive Dean or delegate before taking a Leave of Absence. Any extension of the leave without approval will result in the loss of place in the program but an application may be made to be re-admitted to the program subject to the admission procedures in place at the time.

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

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There shall be a Bachelor of Engineering (Honours) (Mining) (BE(Hons)(Mining)).

### Qualification Requirements Academic Program

To qualify for the degree of Bachelor of Engineering (Honours) (Mining), the student must complete satisfactorily a program of study consisting of the following courses with a combined total of not less than 96 units, comprising:

1. Courses to the value of 96; Core courses up to the value of 78 units and Elective courses to the value of 18 with the option of a major in:
  - Mine automation
2. A Humanitarian or Entrepreneurship minor can be presented in lieu of available electives within the program.
3. A total of 8 weeks of approved engineering work placement is required. Students will need to enrol into the ENG 3100 Engineering Internship UG (0 units) course to complete this requirement.
4. Unless exempted, International students are required to take ENG 1011 Introduction to Engineering EAL in lieu of ENG 1001 Introduction to Engineering.

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

To satisfy the requirements for Bachelor of Engineering (Honours) (Mining) students must complete courses to the value of 96 units.

#### Mining Core

All of the following courses must be completed:

- CEME 1004 [Engineering Mechanics - Statics](#) (3 units)
- CEME 2001 [Strength of Materials](#) (3 units)
- ENG 1001 [Introduction to Engineering](#) (3 units)
- ENG 1003 [Programming \(Matlab and Excel\)](#) (3 units)
- ENG 3004 [Systems Engineering and Industry Practice](#) (3 units)
- ENG 3005 [Research Methods and Project Management](#) (3 units)
- GEOLOGY 2504 [Mineral Resources II](#) (3 units)
- MATHS 1011 [Mathematics IA](#) (3 units)
- MATHS 1012 [Mathematics IB](#) (3 units)
- MATHS 2106 [Differential Equations for Engineers II](#) (3 units)
- MATHS 2107 [Statistics & Numerical Methods II](#) (3 units)
- MECH ENG 2021 [Thermo-Fluids I](#) (3 units)
- MINING 1011 [Introduction to Mining Engineering I](#) (3 units)
- MINING 3070 Resource Estimation (3 units)
- MINING 3071 [Mining Systems](#) (3 units)
- MINING 3072 Mining Geomechanics (3 units)
- MINING 3073 Mine Planning (3 units)
- MINING 4104 Socio-Environmental Aspects of Mining (3 units)
- MINING 4106 Hard Rock Mine Design & Feasibility (3 units)

#### Mining Courses - No Major

All of the following courses must be completed:

- ENG 4001A [Research Project Part A](#) (3 units)
- ENG 4001B [Research Project Part B](#) (3 units)

#### Mining Electives - No Major

Courses to the value of 3 units from the following:

- CEME 1001 [Introduction to Environmental Engineering](#) (3 units)
- CEME 1002 [Introduction to Infrastructure](#) (3 units)

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

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ELEC ENG 1101 [Electronic Systems](#) (3 units)  
MECH ENG 1007 [Engineering Mechanics - Dynamics](#) (3 units)

**and**

Courses to the value of 18 units from the following:  
CEME 4008 [Rem Soil & Groundwater Pol UG](#) (3 units)  
CHEM ENG 2019 [Introduction to Minerals Processing](#) (3 units)  
CEME 3006 [Geotechnical Engineering](#) (3 units)  
COMP SCI 3314 [Introduction to Statistical Machine Learning](#) (3 units)  
GEOLOGY 2501 [Structural Geology II](#) (3 units)  
GEOLOGY 3502 [Mineral and Energy Resources III](#) (3 units)  
MINING 4115 [Mine Automation](#) (3 units)

**and**

Courses to the value of 12 units from the following:

Electives may be any University of Adelaide Undergraduate course for which the student meets the pre-requisites. Please check the availability, restriction and incompatible section on the course planner for elective choices.

### Mine Automation Major

#### Major Courses

All of the following courses must be completed:  
ENG 4001A [Research Project Part A](#) (3 units)  
ENG 4001B [Research Project Part B](#) (3 units)  
ELEC ENG 1101 [Electronic Systems](#) (3 units)  
ELEC ENG 2104 [Digital Signal Processing](#) (3 units)  
MECH ENG 1007 [Engineering Mechanics - Dynamics](#) (3 units)  
MECH ENG 2101 [Mechatronics IM](#) (3 units)  
MECH ENG 3106 [Mechatronics II](#) (3 units)  
MINING 4115 [Mine Automation](#) (3 units)

**and**

Courses to the value of 15 units from the following:

Electives chosen from Bachelor of Engineering (Honours) (Mining) elective list

### Entrepreneurship Minor

To satisfy the requirements for Entrepreneurship Minor students must complete courses to the value of 12 units.

#### Entrepreneurship Minor

All of the following courses must be completed:  
ENTREP 3000 [Innovation and Creativity](#) (3 units)  
ENTREP 3011 [Startup Methodologies](#) (3 units)  
ENTREP 3015 [Entrepreneurial Leadership](#) (3 units)

**and**

Courses to the value of 3 units from the following:  
ENTREP 3900 [eChallenge](#) (3 units)  
ENTREP 3901 [Tech eChallenge](#) (3 units)

### Humanitarian Minor

To satisfy the requirements for Humanitarian Minor students must complete courses to the value of 12 units.

### Humanitarian Minor

All of the following courses must be completed:

ENG 3201 Essentials of Humanitarian Practice (3 units)

PROJMGNT 3030 [Project Logistics and Supply Chains](#) (3 units)

**and**

Courses to the value of 3 units from the following:

SPATIAL 3007WT [GIS for Environmental Management III](#) (3 units)

SPATIAL 3020WT [GIS for Agriculture & Natural Resource III](#) (3 units)

**and**

Courses to the value of 3 units from the following:

DEVT 2100 [Poverty and Social Development](#) (3 units)

DEVT 2101 [Empowerment, Gender & Community Development](#) (3 units)

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