



# ENER20002 Mining Engineering Systems and Legislation

## Term 1 - 2018

Profile information current as at 03/05/2024 09:27 am

All details in this unit profile for ENER20002 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

## General Information

### Overview

This unit will introduce you to the systems and processes crucial to efficient mine design and operation. You will articulate a comprehensive understanding of current Australian coal and metalliferous mining operations and relevant mining Acts and Regulations. You will generate and evaluate fleet equipment selection processes and their likely ability to meet the requirements of scheduled mine production. You will be required to develop several mine design options and to present and defend the best option. This unit is delivered using a project based learning model where you will be expected to work collaboratively in small teams to produce high quality outputs. You will complete formative assessment throughout the unit, which will provide you with timely feedback. You will be graded on the evidence you submit in your portfolio to address the performance standards of the given learning outcomes.

### Details

Career Level: *Postgraduate*

Unit Level: *Level 8*

Credit Points: 12

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.25

### Pre-requisites or Co-requisites

There are no requisites for this unit.

Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the [Assessment Policy and Procedure \(Higher Education Coursework\)](#).

### Offerings For Term 1 - 2018

- Distance
- Melbourne
- Perth
- Rockhampton

### Attendance Requirements

All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

### Residential Schools

This unit has a Compulsory Residential School for distance mode students and the details are:

Click here to see your [Residential School Timetable](#).

### Website

[This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.](#)

## Class and Assessment Overview

### Recommended Student Time Commitment

Each 12-credit Postgraduate unit at CQUniversity requires an overall time commitment of an average of 25 hours of study per week, making a total of 300 hours for the unit.

### Class Timetable

#### [Regional Campuses](#)

Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

#### [Metropolitan Campuses](#)

Adelaide, Brisbane, Melbourne, Perth, Sydney

### Assessment Overview

#### 1. **Portfolio**

Weighting: 100%

### Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the [University's Grades and Results Policy](#) for more details of interim results and final grades.

## CQUniversity Policies

**All University policies are available on the [CQUniversity Policy site](#).**

You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the [CQUniversity Policy site](#).

## Previous Student Feedback

### Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

#### Feedback from Unit website

**Feedback**

The field trip to goldfields was the best aspect of this unit.

**Recommendation**

The site visit will be repeated each semester as this helps students to experience activities performed in mines.

#### Feedback from Unit website

**Feedback**

The lecturer was very experienced in the Mining Sector and with this unit students got to know about the mining related laws and legislation in Australia.

**Recommendation**

More lecture topics will be added for coming semesters.

#### Feedback from Unit website

**Feedback**

The mine site visit gave students a broad and significant practical knowledge of mines in Australia. The lectures and tutorial timings were very convenient and appropriate for all students which could make balance between study and personal life as an international student.

**Recommendation**

The tutorials will be enriched in contents in coming offering.

#### Feedback from Unit website

**Feedback**

The assignments helped us to know more about the mine design and mining legislation of Australia. The written communication skills improved a lot with this unit by introducing Grammarly software package.

**Recommendation**

More learning tools will be introduced to help to improve the English of international students in coming semesters.

## Unit Learning Outcomes

**On successful completion of this unit, you will be able to:**

1. Assess the processes and procedures that would demonstrate compliance with relevant Australian Mining Acts and Regulations in a variety of mining contexts
2. Identify and evaluate risks associated with different mining methods and operations
3. Generate and evaluate multiple mine design options
4. Present and defend a complex design and decision making process
5. Work collaboratively in a team to produce high quality outputs

The learning outcomes are linked to Engineers Australia Stage 1 Competencies.

## Alignment of Learning Outcomes, Assessment and Graduate Attributes

 N/A Level	 Introductory Level	 Intermediate Level	 Graduate Level	 Professional Level	 Advanced Level
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### Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
1 - Portfolio - 100%	•	•	•	•	•

### Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
1 - Knowledge					
2 - Communication					
3 - Cognitive, technical and creative skills					
4 - Research					
5 - Self-management					
6 - Ethical and Professional Responsibility					
7 - Leadership					
8 - Aboriginal and Torres Strait Islander Cultures					

### Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes							
	1	2	3	4	5	6	7	8
1 - Portfolio - 100%								

## Textbooks and Resources

### Textbooks

ENER20002

#### Prescribed

##### Mine managers' handbook

(2012)

Authors: Brian White, John Stuart Ferguson Dunlop

Australasian Institute of Mining and Metallurgy

Carlton , Victoria , Australia

ISBN: 9781921522765

Binding: Other

### IT Resources

**You will need access to the following IT resources:**

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)

## Referencing Style

All submissions for this unit must use the referencing style: [Harvard \(author-date\)](#)

For further information, see the Assessment Tasks.

## Teaching Contacts

**Mehdi Mirzababaei** Unit Coordinator

[m.mirzababaei@cqu.edu.au](mailto:m.mirzababaei@cqu.edu.au)

## Schedule

### Week 1 - 05 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to the course		

### Week 2 - 12 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Resource Geology - Prospecting and Exploration		

### Week 3 - 19 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Resource Geology - Mineral deposits & Ore reserves		

### Week 4 - 26 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Resource Geology - Mineral deposits and ore reserves		

### Week 5 - 02 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
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Resource Geology Case Studies  
Metalliferous ores (Gold) and Non-  
Metalliferous ores (Coal)

Assignment I is due on 6<sup>th</sup> April 2018  
at 16:30

#### Vacation Week - 09 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
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#### Week 6 - 16 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
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Mining Engineering and Phases of  
Mining

#### Week 7 - 23 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
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Mining Design and Planning-Open Cut

#### Week 8 - 30 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
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Mining Design and Planning-  
Underground

#### Week 9 - 07 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
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Metalliferous Mining Legislation

#### Week 10 - 14 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
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Production Management

Assignment II is due on 18<sup>th</sup> May 2018  
at 16:30

#### Week 11 - 21 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
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Industrial Relations

#### Week 12 - 28 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
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Site Investigation

Assignment III is due on 28<sup>th</sup> May 2018  
at 16:30

#### Review/Exam Week - 04 Jun 2018

Module/Topic	Chapter	Events and Submissions/Topic
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Portfolio is due on 4<sup>th</sup> June 2018 at  
16:30

**Portfolio** Due: Review/Exam Week  
Monday (4 June 2018) 4:30 pm AEST

#### Exam Week - 11 Jun 2018

Module/Topic	Chapter	Events and Submissions/Topic
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## Assessment Tasks

### 1 Portfolio

#### Assessment Type

Portfolio

**Task Description**

This assessment has been designed to strengthen your understanding of mining engineering systems and legislation. You will need to carefully review the material provided in the textbooks and on the unit website to complete the pieces of formative assessment. In order to achieve this you will need to:

- Review the detailed formative assessment projects found on the unit website;
- Review the relevant literature (textbooks, websites, etc) to gain a broad understanding of mining engineering systems and legislation;
- Research the primary literature to locate relevant current primary sources (scientific journal articles written in the last 3 years); and
- Complete the submissions in your own words making effective use of the sources of information.

**Assessment Due Date**

Review/Exam Week Monday (4 June 2018) 4:30 pm AEST

**Return Date to Students**

Exam Week Monday (11 June 2018)

**Weighting**

100%

**Minimum mark or grade**

50% of the whole mark

**Assessment Criteria**

The assessment for this course will be in form of a portfolio inclusive of several assignments. Each assignment will be submitted for during the semester and the final portfolio that is submitted in week 12 is a collection of assignments and workbooks completed throughout the semester. Your portfolio will contain:

- A Grade Nomination Table that will provide active links to evidence of how each of the learning outcomes in the portfolio has been achieved. This evidence will demonstrate a particular standard of knowledge or skill that has been achieved.
- A Reflective Journal demonstrating and capturing the learning that you have managed to achieve during participation in the unit's lectures and tutorial sessions. Reflections in this journal will demonstrate a particular standard of knowledge or skill that has been achieved.
- A Workbook capturing your personal work, schedules, research, lecture notes and data. Workbook entries will demonstrate evidence of your individual contributions to your team's project. They will also demonstrate a particular standard of knowledge or skill that has been achieved.
- Self and Peer Assessment results.
- Feedback on formative assessments that you have submitted or participated in during the unit. Your portfolio should be produced in an electronic format using MS Word, Adobe PDF and/or MS Excel documents.

All submissions are processed through the similarity detection software (called Turnitin). You must ensure that all of the work is your own, in line with University requirements. Formal assessment for this unit is by submission of a Portfolio which should contain all of your individual work throughout the term. Portfolio submissions allow you to choose the method that demonstrates how you have attained the course learning outcomes and to what level. This approach is consistent with the project-base-learning units at CQUniversity and many other universities. Your Portfolio must include all pieces of work produced in this unit which you intend to claim and can demonstrate attaining the unit learning outcomes.

It is highly recommended that you include all individual work completed in this unit, should you need to provide additional evidence of your learning achievements. It is also highly recommended that you work on your Portfolio every week so you capture all of your learning achievements. By the end of the semester, your Portfolio should clearly show that by participating in all team projects and individual activities you have attained at least a sound level of achievement for all unit learning outcomes. It is highly recommended to check the English of your portfolio before submission. Poor English may result in losing some marks on the final grade.

**Referencing Style**

- [Harvard \(author-date\)](#)

**Submission**

Online

**Learning Outcomes Assessed**

- Assess the processes and procedures that would demonstrate compliance with relevant Australian Mining Acts and Regulations in a variety of mining contexts

- Identify and evaluate risks associated with different mining methods and operations
- Generate and evaluate multiple mine design options
- Present and defend a complex design and decision making process
- Work collaboratively in a team to produce high quality outputs

#### **Graduate Attributes**

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management
- Ethical and Professional Responsibility
- Leadership

## Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the [Student Academic Integrity Policy and Procedure](#). This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

#### **What is a breach of academic integrity?**

A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

#### **Why is academic integrity important?**

A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

#### **Where can I get assistance?**

For academic advice and guidance, the [Academic Learning Centre \(ALC\)](#) can support you in becoming confident in completing assessments with integrity and of high standard.

#### **What can you do to act with integrity?**



**Be Honest**

If your assessment task is done by someone else, it would be dishonest of you to claim it as your own

**Seek Help**

If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)

**Produce Original Work**

Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem