



ENER20002 Mining Engineering Systems and Legislation

Term 2 - 2017

Profile information current as at 04/05/2024 05:42 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 2 - 2017

- 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 No student as it was the first semester of Master of Engineering Programme

Feedback

No student as it was the first semester of Master of Engineering Programme

Recommendation

No student as it was the first semester of Master of Engineering Programme

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.

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

Binding: Hardcover

Additional Textbook Information

[View textbooks at the CQUniversity Bookshop](#)

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

Schedule

Week 1 - 10 Jul 2017

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Mining Engineering	Introductory Mining Engineering, Howard L. Hartman, Jan M. Mutmansky, Chapters 1 & 5	

Week 2 - 17 Jul 2017

Module/Topic	Chapter	Events and Submissions/Topic
Mine Design and Planning - Open Cut	Introductory Mining Engineering, Howard L. Hartman, Jan M. Mutmansky, Chapters 3, 6 & 7 (section 2)	

Week 3 - 24 Jul 2017

Module/Topic	Chapter	Events and Submissions/Topic
Mine Design and Planning - Underground	Introductory Mining Engineering, Howard L. Hartman, Jan M. Mutmansky, Chapters 10, 11 & 12	

Week 4 - 31 Jul 2017

Module/Topic	Chapter	Events and Submissions/Topic
Mining Organisation Design, Purpose and Structure	Mine Manager's Handbook, Chapter 1	Assignment 1: Spreadsheet - Ore reserve Calculation Due date: Monday 17:00

Week 5 - 07 Aug 2017

Module/Topic	Chapter	Events and Submissions/Topic
Coal Mining Legislation	Coal Mining Act and Regulations Mine Manager's Handbook, Chapter 2	

Vacation Week - 14 Aug 2017

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 21 Aug 2017

Module/Topic	Chapter	Events and Submissions/Topic
Metalliferous Mining Legislation	Mining and Quarrying Act and Regulations Mine Manager's Handbook, Chapter 3	Assignment 2: Reflective Paper on Sustainability of Mining Due date: Friday 17:00

Week 7 - 28 Aug 2017

Module/Topic	Chapter	Events and Submissions/Topic
Guest Lecturer (from Hail Creek mine)	Mine Manager's Handbook, Chapter 5	

Week 8 - 04 Sep 2017

Module/Topic	Chapter	Events and Submissions/Topic
Production Management	Mine Manager's Handbook, Chapter 7	Assignment 3: Mine Safety Management Plan Due date: Friday 17:00

Week 9 - 11 Sep 2017

Module/Topic	Chapter	Events and Submissions/Topic
Reporting Systems (Mine Evaluation)	Mine Manager's Handbook, Chapter 8	

Week 10 - 18 Sep 2017

Module/Topic	Chapter	Events and Submissions/Topic
Geotechnical Site Investigation	Soil Mechanics and Foundations, Muni Budhu, 3rd Edition, Chapter 3	Assignment 4: Presentation of Mine Design Due date: Friday 17:00

Week 11 - 25 Sep 2017

Module/Topic	Chapter	Events and Submissions/Topic
Leadership and Ethics	EA Competencies Mine Manager's Handbook, Chapter 1, Section 5	

Week 12 - 02 Oct 2017

Module/Topic	Chapter	Events and Submissions/Topic
Industrial Relations	Mine Manager's Handbook, Chapter 5, Section 7	Portfolio Due: Week 12 Friday (6 Oct 2017) 5:00 pm AEST

Review/Exam Week - 09 Oct 2017

Module/Topic	Chapter	Events and Submissions/Topic

Exam Week - 16 Oct 2017

Module/Topic	Chapter	Events and Submissions/Topic

Term Specific Information

Please refer to the unit website of ENER20002 for the updated information about this course. Further information about the residential week (if there is any) will be provided later through the unit website.

Assessment Tasks

1 Portfolio

Assessment Type

Portfolio

Task Description

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 have 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 this unit. Reflections in this journal will demonstrate a particular standard of knowledge or skill 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 has been achieved.
- Self and Peer Assessment results.
- Feedback on formative assessments that you have submitted or participated in during the unit.

This assessment is designed to strengthen your understanding of mining engineering systems and legislation. You will need to carefully review the material provided in the textbooks, on the unit website and to complete the pieces of formative assessment.

In order to achieve this you will need to:

- Review the detailed formative assessment projects found in the unit website.
- Review 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)
- Complete the submissions in your own words making effective use of the sources of information

Your portfolio should be produced in an electronic format using MS Word, Adobe PDF and/or MS Excel documents.

Submit your portfolio through the assessment link on the unit website.

Note: 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.

Assessment Criteria

Formal assessment for this unit is by submission of a Portfolio which should contain all of your individual work this term. Portfolio submissions allow you to choose the method that best demonstrates how you have attained the course learning outcomes and to what level. This approach is consistent with 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 term 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.

Preparing your portfolio is a significant task.

Your portfolio will include a Cover Page showing unit code and name, student name and number, date, assignment number, lecturer, and university. An interesting picture related to the assignment work would also be appreciated. It will also include the following sections,

1. A Grade Nomination Table with links to the evidence of you achieving the learning outcomes to a nominated standard.
2. A Reflective Journal capturing your learning throughout the unit.
3. A Workbook containing your individual research and contributions to team projects.
4. Feedback on your team's formative assessments throughout the unit.
5. Self and Peer Assessment results.

Further details of what constitutes evidence of learning outcomes at a particular standard will be provided in the feedback and formative assessment guidelines on the unit website.

Please note that you will have other assignments to do during the semester and they must be submitted on the due dates during the semester (already available in the unit profile) and they will be part of your final portfolio at the end of the semester.

Assessment Due Date

Week 12 Friday (6 Oct 2017) 5:00 pm AEST

If you have multiple files, please compress them using winzip and submit them as a single file.

Return Date to Students

Exam Week Friday (20 Oct 2017)

Weighting

100%

Minimum mark or grade

50

Assessment Criteria

No Assessment Criteria

Referencing Style

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

Submission

Online

Submission Instructions

If you have multiple files, please compress them using any compression software and submit them as a single .ZIP file.

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