

In Progress

Please note that this Unit Profile is still in progress. The content below is subject to change.



ENAR12006 Rock Engineering

Term 2 - 2024

Profile information current as at 19/05/2024 04:25 am

All details in this unit profile for ENAR12006 have been officially approved by CQU University 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

You will be introduced to critical concepts in the application of geo-technical methods to mining operations. The methods and procedures you will learn will cover rock testing, design of underground openings, and pillar and ground support design. You will gain an understanding of how underground mining methods can impact on infrastructure and aquifers through subsidence. You will also learn how to analyse the stability of slopes generated by open pit mining operations. Throughout the unit you will be required to demonstrate professional levels of teamwork and communication. In this unit, you must complete compulsory practical activities. Refer to the Engineering Undergraduate Course Moodle site for proposed dates.

Details

Career Level: *Undergraduate*

Unit Level: *Level 2*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

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 - 2024

- Mixed Mode

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 6-credit Undergraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 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. **Written Assessment**

Weighting: 20%

2. **Written Assessment**

Weighting: 35%

3. **Written Assessment**

Weighting: 45%

4. **Practical Assessment**

Weighting: Pass/Fail

5. **Portfolio**

Weighting: Pass/Fail

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 Student feedback

Feedback

Review course content to ensure it provides the most relevant material suitable for assignments and progress through the unit.

Recommendation

Structure course content to scaffold learning.

Unit Learning Outcomes

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

1. Apply various methods of rock testing to determine the relevant design properties of specific rock types
2. Design openings, pillars and ground support for given situations in underground mining
3. Describe subsidence associated with various mining methods and identify its potential impact on infrastructure and aquifers
4. Analyse slope instabilities for given situations in surface mining operations
5. Demonstrate professional levels of teamwork and communication to support collaborative peer group learning.

The Learning Outcomes for this unit are linked with the Engineers Australia Stage 1 Competency Standards for Professional Engineers in the areas of 1. Knowledge and Skill Base, 2. Engineering Application Ability and 3. Professional and Personal Attributes at the following levels:

Introductory 2.4 Application of systematic approaches to the conduct and management of engineering projects. (LO: 5N)

Intermediate 1.2 Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline. (LO: 1N 2I 4N) 1.4 Discernment of knowledge development and research directions within the engineering discipline. (LO: 1N 2I 3N 4N) 1.6 Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline. (LO: 2I 3N) 2.1 Application of established engineering methods to complex engineering problem solving. (LO: 1N 2I 3I 4N) 2.2 Fluent application of engineering techniques, tools and resources. (LO: 1I 2I 4N) 2.3 Application of systematic engineering synthesis and design processes. (LO: 1I 2I 4I) 3.1 Ethical conduct and professional accountability. (LO: 1N 3I 5N) 3.2 Effective oral and written communication in professional and lay domains. (LO: 1N 2I 3I 4N 5I) 3.4 Professional use and management of information. (LO: 2I 3N 4N 5N) 3.5 Orderly management of self, and professional conduct. (LO: 1I 2I 5N) 3.6 Effective team membership and team leadership. (LO: 1N 5I)

Advanced

1.1 Comprehensive, theory-based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline. (LO: 1N 2A 3N 4I) 1.3 In-depth understanding of specialist bodies of knowledge within the engineering discipline. (LO: 1N 2A 3I 4N) 1.5 Knowledge of engineering design practice and contextual factors impacting the engineering discipline. (LO: 2I 3A 4I)

Note: LO refers to the Learning Outcome number(s) which link to the competency and the levels: N - Introductory, I - Intermediate and A - Advanced.

Refer to the Engineering Undergraduate Course Moodle site for further information on the Engineers Australia's Stage 1 Competency Standard for Professional Engineers and course level mapping information <https://moodle.cqu.edu.au/course/view.php?id=1511>

Alignment of Learning Outcomes, Assessment and Graduate Attributes



Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
1 - Written Assessment - 20%	•				
2 - Written Assessment - 35%		•		•	
3 - Written Assessment - 45%		•	•	•	
4 - Practical Assessment - 0%	•				•
5 - Portfolio - 0%					•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
1 - Communication		•	•	•	•
2 - Problem Solving	•	•	•	•	•
3 - Critical Thinking	•	•	•	•	•
4 - Information Literacy	•	•	•	•	•
5 - Team Work	•				•
6 - Information Technology Competence		•		•	•
7 - Cross Cultural Competence					•
8 - Ethical practice	•	•	•		•
9 - Social Innovation					
10 - 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	9	10
1 - Written Assessment - 20%	•	•	•	•		•		•		
2 - Written Assessment - 35%	•	•	•	•		•		•		
3 - Written Assessment - 45%	•	•	•	•		•		•		
4 - Practical Assessment - 0%	•	•	•	•	•	•	•	•		
5 - Portfolio - 0%	•		•					•		

Textbooks and Resources

Information for Textbooks and Resources has not been released yet.

This information will be available on Monday 17 June 2024

Academic Integrity Statement

Information for Academic Integrity Statement has not been released yet.

This unit profile has not yet been finalised.