In Progress

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

ENAR12013 *Mine Planning and Design*

Term 2 - 2024

Profile information current as at 19/05/2024 01:40 am

All details in this unit profile for ENAR12013 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

In this unit knowledge and skills will be developed to determine optimum pit limits, bench geometry, haul road design, slope stability and equipment selection for surface mining operations. While for underground mining students will learn to determine suitable access to orebodies, mining methods, level spacings, material handling systems, ground support methods, and ventilation systems. Australian mining laws are reviewed to assess their impact on the mine planning and design processes for coal and metalliferous mining in surface and underground mining operations. Students will also determine the constraints between different mining activities that will impact on mine scheduling. They will use forums, reflective journals and workbooks to demonstrate an effective and professional level of teamwork, communication and support for collaborative peer group learning. 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

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 UC reflection.

Feedback
Provide exposure to current mine planning packages.

Recommendation
Include current mine planning software in the course contnent.

Unit Learning Outcomes

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

1. Analyse mining phases from exploration to mine closure to determine the impact of mine planning and design on the safety, productivity and success of a mining operation
2. Outline the acts and regulations associated with Australian Law that impact on mine planning and design for surface, underground, coal and metalliferous mining
3. Determine the optimum pit limits, bench geometry, haul road design, slope stability and equipment selection for a coal or metalliferous deposit requiring surface mining operations
4. Determine suitable orebody access, mining method, level spacing, material handling, ground support, and ventilation for a coal or metalliferous deposit requiring underground mining
5. Deduce the constraints associated with scheduling the development and production of an underground mining operation
6. Demonstrate an effective and professional level of teamwork, communication and support for collaborative peer group learning through the use of forums, reflective journals and workbooks.

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 3.3 Creative, innovative and pro-active demeanour. (LO: 1N 4N 6N) 3.6 Effective team membership and team leadership. (LO: 6N)

Intermediate 1.1 Comprehensive, theory-based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline. (LO: 3I) 1.2 Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline. (LO: 3I 4I 5I) 1.3 In-depth understanding of specialist bodies of knowledge within the engineering discipline. (LO: 1N 2I 3I 4I 5N) 1.5 Knowledge of engineering design practice and contextual factors impacting the engineering discipline. (LO: 1N 2N 3N 4I) 2.1 Application of established engineering methods to complex engineering problem solving. (LO: 1I 3I 4N 5N) 2.3 Application of systematic engineering synthesis and design processes. (LO: 1N 2N 3I) 2.4 Application of systematic approaches to the conduct and management of engineering projects. (LO: 1I 2N 5N) 3.1 Ethical conduct and professional accountability. (LO: 1N 2I 3I 4I) 3.4 Professional use and management of information. (LO: 1N 2N 3I 4N 5N 6I) 3.5 Orderly management of self, and professional conduct. (LO: 1I 2I 6N)

Advanced 1.4 Discernment of knowledge development and research directions within the engineering discipline. (LO: 1I 2I 3I 4A) 1.6 Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline. (LO: 1N 2N 3A 4I) 2.2 Fluent application of engineering techniques, tools and resources. (LO: 2N 3I 4N 5A) 3.2 Effective oral and written communication in professional and lay domains. (LO: 1I 2N 3N 4I 5N 6A)

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 informationhttps://moodle.cqu.edu.au/course/view.php?id=1511

Alignment of Learning Outcomes, Assessment and Graduate Attributes

— N/A Level • Introductory Level • Intermediate Level • Graduate Level ◦ Professional Level ◦ Advanced Level

Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes					
	1	2	3	4	5	6
1 - Written Assessment - 20%	•	•	•			
2 - Written Assessment - 35%		•	•	•		
3 - Written Assessment - 45%		•		•	•	
4 - Practical and Written Assessment - 0%			•	•	•	•
5 - Portfolio - 0%	•	•	•	•	•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
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 and Written Assessment - 0%	•	•	•	•	•	•	•	•		

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
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.