

In Progress

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



ENER14001 Resource Systems Automation Project Term 2 - 2024

Profile information current as at 19/05/2024 09:05 am

All details in this unit profile for ENER14001 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 capstone unit will allow you to apply knowledge in mine design, automation and social innovation to the conversion of a traditional mine site to an automated mine site. You will apply relevant legislation to an audit of the operation's design elements to ensure they are suitable for automation. Your review will particularly address signals and communications between automated equipment and central dispatching. You will prepare a stakeholder management plan to keep the local community fully advised of potential impacts and proposed socially innovative solutions.

Details

Career Level: *Undergraduate*

Unit Level: *Level 4*

Credit Points: *12*

Student Contribution Band: *8*

Fraction of Full-Time Student Load: *0.25*

Pre-requisites or Co-requisites

Pre-requisites: ENAR12013 Mine Planning and Design ENEX13001 Instrumentation and Industrial Automation

ENEG11007 Engineering Industry Project Investigation

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

- Online

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).

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 Undergraduate 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

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](#).

Unit Learning Outcomes

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

1. Research current legislation related to automation of resource systems
2. Design changes to a mine site to meet the signals and communication constraints required for automation
3. Audit the design elements of an existing mining operation in terms of its compliance with safety, legislation and productivity
4. Develop a stakeholder management plan to address community concerns related to the automation of a current mining operation
5. Communicate the results of investigations via a professional level presentation and a written report.

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:

Intermediate 1.2 Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline. (LO: 2I) 1.4 Discernment of knowledge development and research directions within the engineering discipline. (LO: 2I) 3.1 Ethical conduct and professional accountability. (LO: 4I)

Advanced 1.1 Comprehensive, theory-based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline. (LO: 2A) 1.3 In-depth understanding of specialist bodies of knowledge within the engineering discipline. (LO: 2A) 1.5 Knowledge of engineering design practice and contextual factors impacting the engineering discipline. (LO: 1I 2I 4A) 1.6 Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline. (LO: 1I 2A 3A 4I) 2.1 Application of established engineering methods to complex engineering problem solving. (LO: 2I 3A) 2.2 Fluent application of engineering techniques, tools and resources. (LO: 2I 3A) 2.3 Application of systematic engineering synthesis and design processes. (LO: 2A 3I) 2.4 Application of systematic approaches to the conduct and management of engineering projects. (LO: 2I 4N 5A) 3.2 Effective oral and written communication in professional and lay domains. (LO: 1A 2A 3A 4A 5A) 3.3 Creative, innovative and pro-active demeanour. (LO: 2A 3I 5I) 3.4 Professional use and management of information. (LO: 1A 2A 3I 4I 5A) 3.5 Orderly management of self, and professional conduct. (LO: 2I 3I 4A 5A) 3.6 Effective team membership and team leadership. (LO: 2A 5I)

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 - Presentation - 20%	•				
2 - Case Study - 20%		•	•		

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.