

In Progress

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



ENEC12009 Engineering Surveying and Spatial Sciences

Term 1 - 2026

Profile information current as at 05/02/2025 07:24 pm

All details in this unit profile for ENEC12009 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

This unit introduces you to engineering surveying techniques and spatial sciences. It outlines the fundamental principles of the plane and geodetic surveying, such as measurements of distances, elevations, and angles. You will learn surveying methods such as triangulation and traversing and use industry-relevant software QGIS or equivalent to develop skills in mapping and visualisation. This unit also introduces you to concepts related to automated survey instruments, errors and survey adjustments, computerised processing of survey data, and a range of advanced surveying tools such as GPS, laser scanners, and drones. You will also develop teamwork and communication skills necessary to implement such systems in the civil construction and mining industries.

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

Prerequisite: MATH11218 Applied Mathematics or MATH11160 Technology Mathematics.

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 - 2026

- Bundaberg
- Cairns
- Gladstone
- Mackay
- Online
- 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).

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

Information for Class and Assessment Overview has not been released yet.

This information will be available on Monday 12 January 2026

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 SUTE

Feedback

The unit content was informative and covered theoretical aspects of surveying.

Recommendation

Continue to add more insightful information. The focus should be on enhancing the student experience by delivering additional practical materials.

Feedback from SUTE

Feedback

The practical sessions could be a great way to be hands-on.

Recommendation

Videos demonstrating surveying equipment and their operation should be shown and discussed in the lecture sessions to enhance the students' familiarity with the equipment and its usage.

Feedback from Moodle

Feedback

All resources required to complete assignments, such as software downloads and tutorials, should be included within the tab dedicated to the corresponding assessment.

Recommendation

A comprehensive guide for downloading and using the software should be made available to the students for the next delivery.

Feedback from SUTE

Feedback

Including real-world applications provides the opportunity to apply theoretical concepts in practical scenarios.

Recommendation

To provide students with a comprehensive understanding of modern surveying techniques and their real-world applications, there should be discussions on AI technology and the application of drones in surveying. Additionally, practical examples should be used to explore QGIS software in more detail.

Unit Learning Outcomes

Information for Unit Learning Outcomes has not been released yet.

This information will be available on Monday 12 January 2026

Alignment of Learning Outcomes, Assessment and Graduate Attributes

Information for Alignment of Learning Outcomes, Assessment and Graduate Attributes has not been released yet.

This information will be available on Monday 12 January 2026

Textbooks and Resources

Information for Textbooks and Resources has not been released yet.

This information will be available on Monday 16 February 2026

Academic Integrity Statement

Information for Academic Integrity Statement has not been released yet.

This unit profile has not yet been finalised.