

In Progress

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



ENEX13003 *Mechanical Design Practice*

Term 2 - 2026

Profile information current as at 22/01/2025 09:00 pm

All details in this unit profile for ENEX13003 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 aims to develop extensive skills and knowledge in mechanical engineering design. You will learn mechanical design principles in a professional context, including requirements analysis, concept development, detailed design, fabrication, testing, evaluation, and reporting. You will develop skills in 2D drafting, 3D solid modelling, rendering, and producing detailed assembly drawings of mechanical components. Additionally, you will be introduced to machine elements such as gears, bearings, cams, couplings, flywheels, mechanical seals, and their applications in various engineering contexts. You will undertake a team-based design and build project, applying sustainable mechanical design principles learned in this unit using advanced manufacturing methods such as 3D printing. Lectures and workshop sessions will provide the necessary material and support for the successful completion of the project.

Details

Career Level: *Undergraduate*

Unit Level: *Level 3*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

Prerequisites: ENEG11005: Fundamentals of Professional Engineering, ENEG11008: Materials for Engineers, and ENEM12009: Structural Mechanics.

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 - 2026

- Mackay
- 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

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

This information will be available on Monday 18 May 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 Private emails and formal unit feedback.

Feedback

Students appreciated learning new numerical modeling methods, including non-linear FEA analysis.

Recommendation

The unit coordinator should strive to improve the quality of the instructions and further relate more practical applications to these analyses.

Feedback from Formal unit feedback and self-reflection.

Feedback

The deployment of the final assessment item could have been earlier and its tasks could be more clear.

Recommendation

The unit coordinator should make sure the final assessment item is available for students before the census date and the detailed marking rubric can be accessible at the same time.

Feedback from Private emails and formal unit feedback.

Feedback

Students pointed out the difficulty level of the assessment items.

Recommendation

The unit coordinator should inform students of the expected time commitment to completing each assessment and should organise a separate session to explain tasks and expectations for the assessment items.

Unit Learning Outcomes

Information for Unit Learning Outcomes has not been released yet.

This information will be available on Monday 18 May 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 18 May 2026

Textbooks and Resources

Information for Textbooks and Resources has not been released yet.

This information will be available on Monday 22 June 2026

Academic Integrity Statement

Information for Academic Integrity Statement has not been released yet.

This unit profile has not yet been finalised.