ENEX20001 *Embedded System Design*
Term 2 - 2025

Profile information current as at 22/11/2024 09:16 pm

General Information

Overview
This unit will introduce you to microcontroller basics and their real world applications. You will learn about different microcontroller families and their similarities and differences from an application point of view. You will also learn about microcontroller architecture, memory maps, addressing modes, interrupts, timers, counters, and hardware interfacing of a chosen microcontroller. You will learn how to program a microcontroller in a high level language using an integrated development environment. Advanced topics of reading analog inputs, implementation of USART (Universal Synchronous Asynchronous Receiver Transmitter) connections with external world, PWM (Pulse Width Modulation), will also be covered in this unit. After learning the fundamentals of hardware interfacing you will practice them in a laboratory using a microcontroller development system based on this specific microcontroller and finally design and prototype an authentic application of embedded system in your project using the same development system. Online education students are required to attend the residential school.

Details
Career Level: *Postgraduate*
Unit Level: *Level 8*
Credit Points: *12*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.25*

Pre-requisites or Co-requisites
ENEE14006 Embedded Microcontrollers is an Anti-Requisite 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 - 2025

- Melbourne
- Mixed Mode
- 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 19 May 2025

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 In-class student feedback

Feedback
The use of Microsoft Teams is a more efficient way to resolve hardware and software problems encountered by students in their assessments.

Recommendation
Microsoft Teams should be employed alongside emails and forums when addressing student queries related to software and hardware issues.

Feedback from Student unit evaluation responses

Feedback
More sample codes and reading materials are needed to improve learning resources.

Recommendation
Additional sample codes and reading materials should be provided to enhance learning resources.

Feedback from Unit Coordinator's refelction

Feedback
The use of authentic assessment practices with individualised assessment items has resulted in a decrease in academic misconduct cases.

Recommendation
Authentic assessment practices with individualised assessment items should be employed to mitigate academic misconduct cases.

Unit Learning Outcomes

Information for Unit Learning Outcomes has not been released yet.
This information will be available on Monday 19 May 2025

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 19 May 2025

Textbooks and Resources

Information for Textbooks and Resources has not been released yet.
This information will be available on Monday 23 June 2025

Academic Integrity Statement

Information for Academic Integrity Statement has not been released yet.
This unit profile has not yet been finalised.