

## In Progress

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



# ENEE20004 *Digital Control Systems*

## Term 1 - 2025

Profile information current as at 24/11/2024 12:24 pm

All details in this unit profile for ENEE20004 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 will enable you to develop an advanced understanding of digital control techniques applied in industrial control systems. The unit will introduce you to Z-transforms and Z Domain analysis of control systems through transformations. You will design and implement digital filters. You will learn discrete state space modeling and analysis of control systems. The unit will also equip you with knowledge of optimal control techniques such as linear quadratic and Kalman filtering. You will also learn about important digital control implementation techniques such as controller anti-windup and bumpless transfer. You will be required to successfully complete a digital control systems design team project. Online students will be required to attend a compulsory residential school in order to complete the laboratory experiments. Prior knowledge of the basic concepts of electrical circuit analysis, signals and linear systems, and control systems is assumed.

### Details

Career Level: *Postgraduate*

Unit Level: *Level 9*

Credit Points: 12

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.25

### 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 1 - 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 13 January 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 Unit Evaluation

##### **Feedback**

Students appreciated unit coordinator effort in this unit.

##### **Recommendation**

This good practice should be maintained.

#### Feedback from In Class Feedback

##### **Feedback**

Students appreciated the level of engagement during lab activities of this unit.

##### **Recommendation**

This good practice should be maintained.

#### Feedback from Unit Evaluation

##### **Feedback**

Students did not understand requirements of the team project and its relevance to their degree.

##### **Recommendation**

In future offering, a separate document should be provided in addition to the project description. This document should provide further explanation on project tasks with appropriate scaffolding.

#### Feedback from Unit Evaluation

##### **Feedback**

Students requested for more detailed feedback on their assessment markings.

##### **Recommendation**

In future offering, detailed and itemised feedback should be given on marking of students' assessments.

## Unit Learning Outcomes

Information for Unit Learning Outcomes has not been released yet.

This information will be available on Monday 13 January 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 13 January 2025

## Textbooks and Resources

Information for Textbooks and Resources has not been released yet.

This information will be available on Monday 17 February 2025

## Academic Integrity Statement

Information for Academic Integrity Statement has not been released yet.

This unit profile has not yet been finalised.