

In Progress

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



ENEX13001 *Instrumentation and Industrial Automation*

Term 2 - 2024

Profile information current as at 08/05/2024 07:03 pm

All details in this unit profile for ENEX13001 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 introduce you to the fundamentals of industrial instrumentation and automation systems. You will learn the principles of operation of different sensors, actuators, instrumentation amplifiers, and industrial data communication buses. You will also learn noise cancellation and signal conditioning, sensor and actuator interfacing, programmable logic controller (PLC) programming, and process control. You will learn how to specify the requirements for sensors, actuators, and control equipment for a given task, evaluate multiple options available and select the best combination of them for your design. You will also design, fabricate, and program production lines for a given product using industry-standard components and PLCs. You will carry out product line programming using industry-standard PLC programming software and hardware. In this unit, you must complete compulsory practical activities. Refer to the Engineering Undergraduate Course Moodle site for proposed dates.

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: ENEX12002 Introductory Electronics OR (ENEE13018 Analogue Electronics & ENEE13020 Digital Electronics) AND ENEE12016 Signals and Systems

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

- Mackay
- Mixed Mode

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 May 2024

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 Student unit evaluation survey

Feedback

The available learning materials and resources are insufficient to help students to learn independently.

Recommendation

Learning resources and video lectures should be improved with interactive content for independent learning.

Feedback from Unit Coordinator's reflection

Feedback

The unit lacks adequate real-world examples of industrial automation systems.

Recommendation

Industrial automation-related technologies and real-world examples should be included in the unit content.

Feedback from Unit Coordinator's reflection

Feedback

The online test may not be an adequate method for evaluating the practical knowledge of students.

Recommendation

The online test should be replaced with a practical project that applies industrial automation technologies to solve real-world problems.

Unit Learning Outcomes

Information for Unit Learning Outcomes has not been released yet.

This information will be available on Monday 13 May 2024

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 May 2024

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.