

In Progress

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



ENTA13023 Advanced Aircraft Control Systems

Term 2 - 2023

Profile information current as at 05/05/2024 07:13 pm

All details in this unit profile for ENTA13023 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

In this unit you will learn advanced concepts of control systems engineering and their applications in avionics. You will be introduced to conceptual design of analog and digital control systems. You will investigate and validate different sensor types and their applicability in aircraft control systems. You will learn how to analyse aircraft control systems and represent them using standard control systems building blocks. You will also learn and practice to simulate aircraft control systems using industry standard software to validate the control concepts implemented.

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: Essential Mathematics for Control Systems AND Automatic Flight Control and Communication 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 - 2023

No offerings for ENTA13023

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).

Residential Schools

This unit has a Compulsory Residential School for distance mode students and the details are:

Click here to see your [Residential School Timetable](#).

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

Recommended Student Time Commitment

Each 6-credit Undergraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

[Regional Campuses](#)

Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

[Metropolitan Campuses](#)

Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the [University's Grades and Results Policy](#) for more details of interim results and final grades.

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](#).

Unit Learning Outcomes

On successful completion of this unit, you will be able to:

1. Explain the building blocks of aircraft control systems
2. Analyse the function of sensors in an aircraft control system
3. Examine analog and digital controller designs of dynamic controller systems
4. Model and analyse the behaviour of dynamic systems and controllers using appropriate mathematical, graphical and computer-aided tools
5. Model and analyse different aircraft control systems using simulation software
6. Work collaboratively and autonomously and communicate professionally in presenting your solutions.

Alignment of Learning Outcomes, Assessment and Graduate Attributes

| | | | | | |
|---|--|--|--|--|--|
|  N/A Level |  Introductory Level |  Intermediate Level |  Graduate Level |  Professional Level |  Advanced Level |
|---|--|--|--|--|--|

Alignment of Assessment Tasks to Learning Outcomes

| Assessment Tasks | Learning Outcomes | | | | | |
|--|-------------------|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 1 - Written Assessment - 20% | • | | | | | |
| 2 - Written Assessment - 20% | | • | • | • | | |
| 3 - Practical and Written Assessment - 20% | | • | | • | • | • |
| 4 - Take Home Exam - 40% | • | | • | | • | |

Alignment of Graduate Attributes to Learning Outcomes

| Graduate Attributes | Learning Outcomes | | | | | |
|---|-------------------|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 |
| 1 - Communication | • | | | • | | • |
| 2 - Problem Solving | • | • | | • | • | • |
| 3 - Critical Thinking | • | • | • | • | • | • |
| 4 - Information Literacy | | | | | | |
| 5 - Team Work | | | | | • | • |
| 6 - Information Technology Competence | | | • | • | • | |
| 7 - Cross Cultural Competence | | | | | | |
| 8 - Ethical practice | | | | | | |
| 9 - Social Innovation | | | | | | |
| 10 - Aboriginal and Torres Strait Islander Cultures | | | | | | |

Alignment of Assessment Tasks to Graduate Attributes

| Assessment Tasks | Graduate Attributes | | | | | | | | | |
|------------------------------|---------------------|---|---|---|---|---|---|---|---|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 - Written Assessment - 20% | • | • | • | | | | | | | |
| 2 - Written Assessment - 20% | • | • | • | | | • | | | | |

| Assessment Tasks | Graduate Attributes | | | | | | | | | |
|--|---------------------|---|---|---|---|---|---|---|---|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 3 - Practical and Written Assessment - 20% | • | • | • | | • | • | | | | |
| 4 - Take Home Exam - 40% | • | • | • | | | • | | | | |

Textbooks and Resources

Textbooks

There are no required textbooks.

IT Resources

You will need access to the following IT resources:

Referencing Style

Information for Referencing Style has not been released yet.

This unit profile has not yet been finalised.

Teaching Contacts

Information for Teaching Contacts has not been released yet.

This unit profile has not yet been finalised.

Assessment Tasks

Information for Assessment Tasks has not been released yet.

This unit profile has not yet been finalised.

Academic Integrity Statement

Information for Academic Integrity Statement has not been released yet.

This unit profile has not yet been finalised.