

In Progress

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



ENTA13024 Thermofluid Engineering for Aviation

Term 1 - 2025

Profile information current as at 26/11/2024 04:11 am

All details in this unit profile for ENTA13024 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 introduces you to the concepts of thermodynamics and fluid mechanics in the context of the aviation and aerospace industries. You will begin with the ideal gas law and the first and second laws of thermodynamics for open and closed systems. You will then investigate the energy conversion and work done in engineering processes, and concepts and processes in thermodynamics to analyse energy and heat transfer in liquid and gas. You will study the physics of phase change processes for pure substances, conduct energy analysis of closed systems, and perform mass and energy analysis of control volumes. A key objective of the unit is improving your problem-solving skills by applying common theorems in fluid mechanics such as Bernoulli and energy equations to solve aerospace vehicle problems. You will study internal and external (drag and lift) fluid flows in the context of aviation systems and their impact on aerodynamics. You will use Computational Fluid Dynamics modelling software to solve complex aerodynamic problems.

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

Prerequisite: Aerodynamics and Airframe 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 1 - 2025

- Online
- 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](#).

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.