

In Progress

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



COIT20257 *Distributed Systems: Principles and Development*

Term 1 - 2027

Profile information current as at 04/09/2026 04:15 pm

All details in this unit profile for COIT20257 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

You will learn the principles of distributed systems, including architecture, design, and algorithms, and how to use them in the development of distributed applications. You will explore the significant distributed system characteristics of scalability, heterogeneity, security, and failure handling in addition to the fundamentals of networking, inter-process communication, remote invocation, and operating system support. You will examine different approaches to supporting distributed applications including client/server models, web services, cloud computing, and edge computing solutions. You will learn about distributed file systems, naming, and data-related aspects of distributed transactions, and data replication. You will analyse algorithms associated with coordination and agreement. You will also critique the social impacts arising from the widespread adoption of distributed systems, including remote work, virtual communities, and privacy and security concerns. You will reinforce the core theoretical concepts by analysing a case study focused on a complex, component-based distributed system designed with robust security features.

Details

Career Level: *Postgraduate*

Unit Level: *Level 9*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

Prerequisite unit: COIT20256 Object Oriented Development Anti-Requisite unit: COIT23005 Distributed 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 - 2027

- Brisbane
- Melbourne
- Online
- Rockhampton
- Sydney

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 11 January 2027

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
- Academic Progression Policy and Procedure
- Student Refund and Credit Balance Policy and Procedure
- 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 Coordinator self reflection

Feedback

There is a need to gather feedback from students and the teaching team on the newly added content regarding 1) security topics (mutual authentication and symmetrical/asymmetrical cryptography) and 2) the complex distributed system case study, to assess their reception and integration into the course and inform necessary refinements for improved learning outcomes.

Recommendation

Collect feedback from the teaching team and check students' performance on the newly added content on the two topics. If necessary, make proper adjustments/updates to the content.

Feedback from Unit Coordinator self reflection

Feedback

The rise of IoT, demand for low-latency applications, and growth of 5G underscore the importance of incorporating edge computing into the curriculum to equip students with knowledge of efficient and scalable computing solutions.

Recommendation

Introduce the modern distributed computing model of Edge Computing, along with key industry standards. Assess Edge Computing through a simplified case study, such as Smart Farming.

Unit Learning Outcomes

Information for Unit Learning Outcomes has not been released yet.
This information will be available on Monday 11 January 2027

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 11 January 2027

Textbooks and Resources

Information for Textbooks and Resources has not been released yet.
This information will be available on Monday 15 February 2027

Academic Integrity Statement

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