

In Progress

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



COIT12209 *Data Science*

Term 2 - 2026

Profile information current as at 08/06/2026 03:36 pm

All details in this unit profile for COIT12209 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 focuses on the foundational concepts of data science. Digital data is growing at a very fast rate with data being the underlying driver of the knowledge economy. This unit will prepare you with foundational knowledge and practical skills about data collection, representation, storage, retrieval, management, analysis, and visualisation through the exploration of data-related challenges. You will also learn the impact of big data and business analytics on business performance to cater for the development of useful information and knowledge in an attempt to achieve data-driven decision making.

Details

Career Level: *Undergraduate*

Unit Level: *Level 2*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

Prerequisite: COIT11226 Systems Analysis Co-requisite: COIT11237 Database Design & Implementation

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 - 2026

- 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

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](#).

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 Teaching team feedback

Feedback

The lecture on Machine Learning System Design lacks practical components.

Recommendation

Update the lecture topic "An Overview of Machine Learning System Design" to include practical components to complement theory.

Feedback from Teaching team feedback

Feedback

The unit currently lacks a hands-on example of bias in data analysis, which is important to reinforce professional data science practices.

Recommendation

Integrate a hands-on example of bias in data analysis into one of the tutorials.

Unit Learning Outcomes

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

1. Discuss and demonstrate data science foundational concepts
2. Investigate and evaluate applications for data storage, management, retrieval, and analysis and visualisation
3. Apply knowledge to process data for data driven decision making
4. Analyse and generate solutions to solve data-related challenges
5. Demonstrate the knowledge required in using data science skills to solve business problems.

Australian Computer Society (ACS) recognises the Skills Framework for the Information Age (SFIA). SFIA is in use in over 100 countries and provides a widely used and consistent definition of ICT skills. SFIA is increasingly being used when developing job descriptions and role profiles.

ACS members can use the tool MySFIA to build a skills profile at

<https://www.acs.org.au/professionalrecognition/mysfia-b2c.html>

This unit contributes to the following workplace skills as defined by SFIA. The SFIA code is included:

Data Management (DATM)

Business Analysis (BUAN)

Data Analysis (DTAN)

IT Operation (ITOP)

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
1 - Practical Assessment - 40%	●	●			
2 - Written Assessment - 40%		●	●	●	●

Assessment Tasks

Learning Outcomes

1 2 3 4 5

3 - Presentation - 20%

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Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes

Learning Outcomes

1 2 3 4 5

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 - First Nations Knowledges

11 - 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 11

1 - Practical Assessment - 40%



2 - Written Assessment - 40%



3 - Presentation - 20%



Textbooks and Resources

Information for Textbooks and Resources has not been released yet.
This information will be available on Monday 22 June 2026

Academic Integrity Statement

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