

In Progress

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



MEDI13001 Science and Instrumentation 3

Term 1 - 2026

Profile information current as at 23/01/2025 01:12 pm

All details in this unit profile for MEDI13001 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 expand on your prior study of x-ray equipment and imaging processes of specialised imaging technologies. The primary focus of the unit is on the technical fundamentals (both theoretical and practical) of Computed Tomography to enable safe and effective scan technique. You will examine in detail the equipment operation of computed tomography and its processes such as data acquisition, processing, reconstruction and display. You will further explore dose and image optimisation strategies and quality assurance testing, including image artefacts. You will also be introduced to the physical and operational principles of advanced and/or newly emerging medical imaging modalities such as angiography, magnetic resonance imaging, ultrasound imaging, nuclear medicine imaging, positron emission tomography CT, EOS and spectral CT.

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

Pre-requisites MEDI12001 Radiation Science; and MEDI12002 Science & Instrumentation 1, and MEDI12005 Science and Instrumentation 2, and MEDI12007 Quality Processes for Dose and Image Optimisation

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 - 2026

- Mackay

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 12 January 2026

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 reflection

Feedback

The Practical CT Equipment Use assessment encourages a high level of attendance at CT lab activities and ensures application of the CT theoretical knowledge obtained through weekly content.

Recommendation

Maintain the inclusion of the CT Practical Equipment Use assessment to encourage student engagement and application of CT skills with the CT equipment on-campus.

Feedback from Unit Coordinator & Team reflection

Feedback

The Weeks 5 & 9 online tests assess the science and instrumentation of CT scanning, and the final supervised in-class test in Week 13 assesses this same content to a lesser extent with a focus on the 7 other imaging modalities covered in the latter part of the term. As CT is a vital component of the course accreditation Professional Capabilities requirements, the CT theoretical knowledge would be better assessed by changing the Week 9 test to a supervised in-class test to reflect the factual CT knowledge required by graduates in meeting accreditation standards.

Recommendation

Investigate the modification of the unit assessment strategy by changing the Week 9 Online Quiz to a supervised in-class test to best assess students' CT knowledge, and change the final assessment from an in-class test to an online quiz to assess the knowledge of the 7 additional imaging modalities that include new and emerging technologies.

Unit Learning Outcomes

Information for Unit Learning Outcomes has not been released yet.

This information will be available on Monday 12 January 2026

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 12 January 2026

Textbooks and Resources

Information for Textbooks and Resources has not been released yet.

This information will be available on Monday 16 February 2026

Academic Integrity Statement

Information for Academic Integrity Statement has not been released yet.

This unit profile has not yet been finalised.