



MEDI12007 Quality Processes for Dose and Image Optimisation

Term 3 - 2023

Profile information current as at 27/04/2024 04:44 pm

All details in this unit profile for MEDI12007 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.

Corrections

Unit Profile Correction added on 17-11-23

Assessment 3 Practical and Written Assessment due date:

- Offering 1: **19/12/2023** 11:45 pm AEST
- Offering 2 res school A: **05/02/2024** 11:45 pm AEST
- Offering 2 res school B: **08/02/2024** 11:45 pm AEST

General Information

Overview

You will apply knowledge of equipment operation and use as well as radiographic image acquisition techniques to the optimisation of radiographic images and patient dose. You will apply the concepts of quality control testing and quality assurance to monitor equipment performance, detect performance issues, document findings and determine corrective action. You will consider imaging quality processes in the larger context of facility quality management and compliance with external standards. You will investigate the impact of technical factor selection on patient dose and image quality. Through these you will learn to make informed selections and modifications of technical parameters for radiographic procedures and to justify your 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

Pre-requisites: MEDI12001 Radiation Science MEDI12002 Science and Instrumentation 1 MEDI12005 Science & Instrumentation 2 Co-requisite: MEDI12004 Medical Imaging Clinical Placement 1

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 3 - 2023

- Mixed Mode

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

1. **On-campus Activity**

Weighting: Pass/Fail

2. **In-class Test(s)**

Weighting: 20%

3. **Practical and Written Assessment**

Weighting: 30%

4. **Online Test**

Weighting: 50%

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 Unit Coordinator self-reflection Informal feedback from students

Feedback

The 3-day residential school was well received by students.

Recommendation

Retain the 3-day res school to support students with integration of the theory and application of concepts in future iterations of the unit.

Feedback from Unit Coordinator self-reflection Informal feedback from students SUTE feedback

Feedback

Having application type questions in the weekly tutorials supported student learning and consolidation of the key concepts learned.

Recommendation

Continue the adaptation of application type questions in the review and consolidation of content in the weekly tutorials.

Unit Learning Outcomes

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

1. Assess the performance of radiographic, fluoroscopic and ancillary equipment relative to quality standards.
2. Troubleshoot imaging faults and equipment problems
3. Apply metrics of image quality to describe and evaluate visibility and accuracy of structures demonstrated on radiographic images
4. Relate radiographic equipment performance and the selection of image acquisition and processing parameters to patient dose and image quality
5. Critically appraise evidence to inform decision-making in technical parameter selection to address dose and image optimisation
6. Discuss the interconnections of imaging quality control, dose management, departmental quality management and compliance with external quality and safety standards for clinical imaging facilities.

The unit links to the following Professional Capabilities for Medical Radiation Practitioners as detailed by the Medical Radiation Practice Board of Australia (effective March 2020):

Domain 1A Diagnostic radiographer:

- 1. Perform projection radiography examinations in a range of settings.
 - a. Operate projection radiography systems safely and effectively in a range of settings
 - c. Use standard radiographic projections and exposure factors for the patient's/client's body area being examined and, when appropriate, modify them to consider patient/client presentation, clinical indications and mechanisms of injury
 - f. Critically evaluate images against radiographic criteria including assessment of exposure index, field of view and anatomical rotation
 - g. Collaborate in the design and evaluation of projection radiography protocols.

Domain 2: Professional and ethical practitioner:

- 3. Take responsibility and accountability for professional decisions.
 - c. Integrate organisational policies and guidelines with professional standards and apply to practice.

Domain 4: Evidence-informed practitioner:

- 1. Resolve challenges through application of critical thinking and reflective practice
 - a. Identify the challenge or question and the information that is needed to respond
 - b. Find, critically appraise, interpret and apply best available research evidence to inform clinical reasoning and professional decision-making

Domain 5: Radiation safety and risk manager:

- 1. Perform and provide safe radiation practice
 - a. Comply with relevant radiation safety legislation
- 3. Implement quality assurance processes imaging or treating patients/clients
 - a. Check and confirm that all equipment is in good order and operating within acceptable parameters
 - b. Follow protocols to record details of all routine equipment checks
 - c. Identify and take appropriate action to correct unacceptable condition or operation of all equipment
 - d. Follow protocols to record and report non-conformance of all equipment.

Alignment of Learning Outcomes, Assessment and Graduate Attributes



Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes					
	1	2	3	4	5	6
1 - On-campus Activity - 0%	•		•	•	•	
2 - In-class Test(s) - 20%	•					
3 - Practical and Written Assessment - 30%			•	•	•	
4 - Online Test - 50%	•	•	•	•		•

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						

Textbooks and Resources

Textbooks

MEDI12007

Supplementary

Quality Management in the Imaging Sciences

Edition: 6th (2019)

Authors: Jeffrey Papp

Elsevier

St Louis , Missouri , United States of America

ISBN: 978-0-323-51237-4

Binding: eBook

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)

Referencing Style

All submissions for this unit must use the referencing style: [Vancouver](#)
For further information, see the Assessment Tasks.

Teaching Contacts

Caroline Falconi Unit Coordinator
c.falconi@cqu.edu.au

Schedule

OFFERING 1: Week 1 - 06 Nov 2023

Module/Topic	Chapter	Events and Submissions/Topic
Topic 1: Introduction to quality processes Topic 2: Metrics related to image quality and imaging system performance Topic 3: The role of technical parameter selection on image quality and patient dose Topic 4: Equipment performance attributes and their significance to image quality and patient dose	Refer to the unit Moodle site for assigned readings.	Online tutorial <u>Thursday</u> 3 - 4 pm

OFFERING 1: Week 2 - 13 Nov 2023

Module/Topic	Chapter	Events and Submissions/Topic
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Topic 5 Introduction to equipment testing
 Topic 6: Principles of diagnostic test selection in healthcare
 Topic 7: Evaluation of Diagnostic Tests and Protocols
 Topic 8: Use of Excel spreadsheets in managing and analysing data

Refer to the unit Moodle site for assigned readings.

Online tutorial Monday 3 - 4 pm

OFFERING 1: Week 3 - 20 Nov 2023

Module/Topic	Chapter	Events and Submissions/Topic
Experiential learning to apply concepts from Weeks 1 and 2		3-day Residential school for Offering 1 Wed 22/11/2023 - Fri 24/11/2023 In-class test Wed 22/11/2023 for Offering 1

OFFERING 1: Week 4 - 27 Nov 2023

Module/Topic	Chapter	Events and Submissions/Topic
Topic 9: Troubleshooting of equipment performance issues Topic 10: Image artefacts Topic 11: Reject analysis	Refer to the unit Moodle site for assigned readings.	Online tutorial Monday 3 - 4 pm

OFFERING 1: Break Week - 04 Dec 2023

Module/Topic	Chapter	Events and Submissions/Topic

OFFERING 1: Week 5 - 11 Dec 2023

Module/Topic	Chapter	Events and Submissions/Topic
Topic 12: Exposure analysis Topic 13: QA testing of specialised equipment	Refer to the unit Moodle site for assigned readings.	Online tutorial Monday 3 - 4 pm

OFFERING 1: Week 6 - 18 Dec 2023

Module/Topic	Chapter	Events and Submissions/Topic
Topic 14: QA programs for monitoring and maintaining equipment performance Topic 15: Quality improvement in healthcare and the Diagnostic Imaging Accreditation Scheme (DIAS)	Refer to the unit Moodle site for assigned readings.	Online tutorial Monday 3 - 4 pm Report on Dose and Image Optimisation due for Offering 1

OFFERING 1: Christmas Holiday Week - 25 Dec 2023

Module/Topic	Chapter	Events and Submissions/Topic

OFFERING 1: Week 7 Final Assessment - 01 Jan 2024

Module/Topic	Chapter	Events and Submissions/Topic
		Online tutorial <u>Tuesday</u> 3 - 4 pm Summative Online Test for Offering 1 on Wednesday 04/01/2024

OFFERING 2: Week 1 - 01 Jan 2024

Module/Topic	Chapter	Events and Submissions/Topic

Topic 1: Introduction to quality processes
 Topic 2: Metrics related to image quality and imaging system performance
 Topic 3: The role of technical parameter selection on image quality and patient dose
 Topic 4: Equipment performance attributes and their significance to image quality and patient dose

Refer to the unit Moodle site for assigned readings.

Online tutorial [Thursday](#) 3 - 4 pm

OFFERING 2: Week 2 - 08 Jan 2024

Module/Topic	Chapter	Events and Submissions/Topic
Topic 5 Introduction to equipment testing Topic 6: Principles of diagnostic test selection in healthcare Topic 7: Evaluation of Diagnostic Tests and Protocols Topic 8: Use of Excel spreadsheets in managing and analysing data	Refer to the unit Moodle site for assigned readings.	Online tutorial Monday 2 - 3 pm

OFFERING 2: Week 3 - 15 Jan 2024

Module/Topic	Chapter	Events and Submissions/Topic
Experiential learning to apply concepts from Weeks 1 and 2		3-day Residential school for Offering 2 (dates as assigned) • Mon 15 - Wed 17 Jan 2024 OR • Wed 17 - Fri 19 Jan 2024 In-class test - Day 1 of assigned res school

OFFERING 2: Week 4 - 22 Jan 2024

Module/Topic	Chapter	Events and Submissions/Topic
Topic 9: Troubleshooting of equipment performance issues Topic 10: Image artefacts Topic 11: Reject analysis	Refer to the unit Moodle site for assigned readings.	Online tutorial Monday 2 - 3 pm

OFFERING 2: Week 5 - 29 Jan 2024

Module/Topic	Chapter	Events and Submissions/Topic
Topic 12: Exposure analysis Topic 13: QA testing of specialised equipment	Refer to the unit Moodle site for assigned readings.	Online tutorial Monday 2 - 3 pm

OFFERING 2: Week 6 - 05 Feb 2024

Module/Topic	Chapter	Events and Submissions/Topic
Topic 14: QA programs for monitoring and maintaining equipment performance Topic 15: Quality improvement in healthcare and the Diagnostic Imaging Accreditation Scheme (DIAS)	Refer to the unit Moodle site for assigned readings.	Online tutorial Monday 2 - 3 pm Report on Dose and Image Optimisation due for Offering 2

Offering 2: Week 7 Final Assessment - 12 Feb 2024

Module/Topic	Chapter	Events and Submissions/Topic
		Online tutorial Monday 2 - 3 pm Summative Online Test for Offering 2 on Wednesday 14/02/2024

Term Specific Information

This unit runs over a period of seven academic weeks. Since most students in the unit are undertaking a clinical placement in either the first half of term or the second, the unit is delivered in two offerings. Offering 1, in Weeks 1 - 7 of the term, is for students who have been allocated a clinical placement in January - February 2024. Offering 2, in Weeks 7 - 13, is for students who have been allocated a clinical placement in November - December 2023. Each offering has assessment due dates that are within its seven-week period.

There is a three day compulsory residential school in the third week of each offering. For Offering 1 the dates are 22 - 24 November 2023. For Offering 2 there are two options, 15 - 17 January and 17 - 19 January 2024. You will need to attend for all day for all three days, as many of the lab activities form the basis for the practical and written assessment task.

As for all classes in the Medical Imaging clinical simulation laboratories, you are required to comply with the Medical Imaging dress code for all lab sessions.

In accordance with the Australian Government's quality standards for tertiary education, you are expected to commit 150 hours of engagement to the unit during your seven week period. That equates to about 22 hours per week. Plan to commit that weekly time in all seven weeks. The volume of theory content is higher in the first two weeks to prepare you for the Week 3 res school. In the weeks following the res school your weekly time should be split between theory study and assessment preparation.

The weekly unit learning activities include watching recorded lectures, completing assigned readings, answering questions in advance of the tutorial and participating in the tutorial. The weekly tutorial times are not the same in all weeks so refer to the Weekly Schedule session for details. The tutorials are run online and will be recorded only if at least three students attend.

Assessment Tasks

1 Residential school

Assessment Type

On-campus Activity

Task Description

You are required to attend a three day residential ('res') school in the third week of your offering. During this res school you will participate in small group lab activities to evaluate equipment performance and modify technical parameters to achieve specific outcomes in image appearances and dose management. You will collect data that you will use in your written assignment. You will also participate in scoring of lesion visibility on lab images as part of the process of evaluating radiographic imaging protocols.

Res schools are scheduled as follows:

- Students completing the unit in November/December ('Offering 1') will attend res school during Wednesday - Friday 22 - 24 November 2023
- Students completing the unit in January/February ('Offering 2') will attend res school at EITHER of:
 - Monday - Wednesday 15 - 17 January 2024
 - Wednesday - Friday 17 - 19 January 2024

A daily schedule of activities will be posted on the unit Moodle site. Note that the in-class test will be scheduled in the morning of Day 1 of your res school, so plan your travel to ensure arrival by 9:30 am that day.

Assessment Due Date

As timetabled for your assigned offering

Return Date to Students

Score will be confirmed within one week of the last day of the assigned res school

Weighting

Pass/Fail

Minimum mark or grade

Pass

Assessment Criteria

This is a non-graded assessment task. In order to attain a 'Pass' score for this task, you must:

- attend all scheduled lab and classroom sessions within your assigned res school
- participate as a member of your lab group in carrying out lab activities

Referencing Style

- [Vancouver](#)

Submission

No submission method provided.

Submission Instructions

Students do not have any file submission specific to this task.

Learning Outcomes Assessed

- Assess the performance of radiographic, fluoroscopic and ancillary equipment relative to quality standards.
- Apply metrics of image quality to describe and evaluate visibility and accuracy of structures demonstrated on radiographic images
- Relate radiographic equipment performance and the selection of image acquisition and processing parameters to patient dose and image quality
- Critically appraise evidence to inform decision-making in technical parameter selection to address dose and image optimisation

2 In-class test

Assessment Type

In-class Test(s)

Task Description

This is a closed-book on-campus supervised test. You will complete this test in the first half day of your residential ('res') school for the unit.

The test focuses on imaging equipment performance attributes and standard methods of measuring those attributes as covered in Topics 1 - 5 of the unit. You are expected to apply prior knowledge of imaging equipment construction, function and controls. You will be expected to apply your new and prior learning in the res school lab activities. Preparation for this test will support your readiness to participate in and learn from the res school activities.

All questions will be based on the posted weekly learning goals for Weeks 1 and 2 as related to Topics 1 - 5. Questions may include analysis of diagrams, photographs and/or radiographs. Question types may include multiple choice, fill-in-the-blank, matching, and true/false with explanation and written response.

The test is 60 minutes in length and provided as a Moodle quiz. You will sit the test in the designated on-campus computer lab at the scheduled time for your res school.

This test must be written at the scheduled date and time for your assigned res school and as posted on the unit Moodle site. As per the Assessment Procedures, this task is to be completed during a defined period. There is no opportunity to apply a late penalty. If you arrive late, you may enter the test room up to 30 minutes after the start of the test; however, you will still be required to submit your test at the standard test end time. You are allowed a single attempt.

In the absence of an approved extension, you cannot complete this assessment at a later time, and you will receive a mark of zero for the assessment if you have not completed it by the scheduled date and time. If you have an approved extension, you will be assigned a new test date and time as soon as possible after the original test date, according to availability of a test supervisor and an appropriate room. It is your responsibility to ensure that you can attend at that new assigned date/time. Please see Section 5 of the University's Assessment Policy and Procedure for details regarding Assessment Management, specifically around assessment extension.

Assessment Due Date

As scheduled during the morning of Day 1 of your assigned res school

Return Date to Students

Two weeks after the test date

Weighting

20%

Assessment Criteria

Question responses will be scored on the following criteria:

- factual correctness
- correct use of terminology
- completeness and relevance of the response in addressing the question that was asked

Referencing Style

- [Vancouver](#)

Submission

Online

Learning Outcomes Assessed

- Assess the performance of radiographic, fluoroscopic and ancillary equipment relative to quality standards.

3 Report on evaluation of radiographic protocols

Assessment Type

Practical and Written Assessment

Task Description

Overview:

In the medical imaging profession, radiographic image quality and patient dose are highly dependent on the judicious selection of technical parameters. This assessment requires you to apply concepts that you have learned and applied in prerequisite units as well as new learning in this unit to connect parameter selection to image appearances and patient dose. Your skill in selecting technical parameters in response to clinical circumstances and best practice will be a fundamental part of your professional practice as a radiographer. Evaluation of imaging protocols and participation in the development of new protocols are required entry-to-practice capabilities.

Practical component:

The practical components of this assessment will be completed during the res school. Your lab group will be provided with an anatomical test object which has one or more simulated lesions within it. Your group will produce a set of six radiographs of the same projection of the anatomical object. The first, the baseline image, will be acquired with standard technical parameters that are provided to you. For each of the other five images, your group will modify one or more technical parameter with the goal of either reducing the patient's absorbed dose with minimal loss of lesion visibility or increasing lesion visibility with minimal increase in patient dose. Your group will also image a low contrast detectability test object using the baseline parameters and your group's selected sets of modified technical parameters.

The second practical component requires you to evaluate the visibility of the simulated lesions on displayed anonymised images of the anatomical test object. All students at the res school will view the same sets of images under the same viewing conditions. Each image will be displayed divided into four sections. For each section, you will decide whether or not you detect a lesion within it and you will enter a confidence score of 1 - 5 for that decision. All confidence scoring data will be collected, anonymised and distributed to the students attending that res school for use in the written component.

Written component:

There are two parts to the written component, both following on from the practical component.

Following the res school, you will be assigned two imaging protocols for the anatomical test object, one using the baseline parameters and the other using a protocol formulated by another lab group. You will be provided the images (both of the anatomical test object and the low contrast detectability test object) and the associated data, including acquisition parameters and detection scores. You will use the images and data to compare the two protocols for visibility of lesions relative to patient absorbed dose.

You will use the baseline protocol as the 'established' diagnostic test for the lesion and the other protocol as the 'new' diagnostic test for the lesion. You will calculate the sensitivity and specificity of each diagnostic test at each of the five thresholds of confidence scores. You will then plot a Receiver Operating Characteristic (ROC) curve for each test and calculate its area under the curve. You will also use the low contrast detectability images to produce objective scores for each protocol. You will then provide a comparison of visibility of anatomical structures on the two assigned radiographs.

Using the data and your analysis, you will determine which imaging protocol (the established or the new) you would recommend for clinical use.

For the second part of the written component, you will answer a series of questions to discuss the impacts of specific aspects of selection of image acquisition and processing parameters on patient dose and image quality. This will focus on discussion of your group's images and the chosen modifications to technical parameters to achieve specific goals.

Further details on written component, including the scoring rubric, the specific questions you will address and the format of the submission, will be provided on the Moodle site. The questions will be different for each offering of the unit during the term.

Assessment Due Date

Offering 1: 19/12/24 11:45 pm AEST. Offering 2 res school A: 05/02/2024 11:45 pm AEST. Offering 2 res school B: 08/02/2024 11:45 pm AEST.

Return Date to Students

Return two weeks after assessment due date

Weighting

30%

Minimum mark or grade

50%

Assessment Criteria

The assignment will be evaluated using the following criteria:

- Completeness of all components relative to the posted assignment instructions
- Correct application of theoretical concepts
- Factual correctness of calculations, explanations and discussions
- Relevance of responses in addressing what was asked
- Correct use of terminology
- Clarity of communication
- Evidence of problem-solving skills
- Use of the literature to inform decision-making

Referencing Style

- [Vancouver](#)

Submission

Online

Learning Outcomes Assessed

- Apply metrics of image quality to describe and evaluate visibility and accuracy of structures demonstrated on radiographic images
- Relate radiographic equipment performance and the selection of image acquisition and processing parameters to patient dose and image quality
- Critically appraise evidence to inform decision-making in technical parameter selection to address dose and image optimisation

4 Final test

Assessment Type

Online Test

Task Description

You will complete a summative online test in Week 7 of your assigned offering of the unit. The aim of this test is for you to demonstrate your ability to apply the concepts of the six weeks of unit material that relate to Unit Learning Outcomes 1 - 4 and 6. All questions will be based on the posted weekly learning goals. A portion of the questions will be short-answer, matching and/or multiple choice questions. Long answer question tasks will be of the same types that you will practice in the weekly tutorials. These tasks may include analysis of data, and/or interpretation of diagrams, photographs and/or radiographs to explain and discuss concepts.

As this test includes many long-response questions, it is recommended that you undertake it using a computer rather than tablet or phone. You will be expected to view images and use information from those, so it is your responsibility to

ensure that you have sufficient screen display size and appropriate ambient lighting conditions to view medical images. You are also responsible for ensuring that you have a reliable high speed internet connection throughout the test.

During the test you may access your study notes, textbook, the unit Moodle site and/or any website. However, you must be mindful of the time you are taking to answer each question because *it is likely you will not have sufficient time to look up material for every question*. You will need to have prepared effective summary notes, have an understanding of the content and concepts and have familiarity with your resources to use them effectively. You will also be expected to have ready access to the Queensland performance standards for diagnostic imaging equipment and to know how to apply them.

While this is an open book assessment, the standards of academic integrity still apply. This assessment is to be undertaken as an individual. All responses must be your own work. Colluding with other students on non-group work is considered academic misconduct. Just as for written assignments, you must acknowledge intellectual content in your answers that is not your own work. Basic statements of facts are considered 'common knowledge' in the context of this unit so they do not need to be cited. However, if you copy any explanation content word-for-word from ANY source (including lecture slides), you must put that content in quotation marks and formally cite your source.

You will have two hours (120 minutes) to complete the test in Moodle. The test will be available for a three hour period between **2:00 - 5:00 pm AEST** on your assigned test date. If you start the test with less than 120 minutes remaining in the availability period, your test will still close at 5:00 pm. You are allowed a single attempt. Once you start the test, it will close after 120 minutes or the end of the availability period, whichever comes first. Note that the listed due date is the closing time of the test.

As per the Assessment Procedures, this test must be written at the scheduled date and time. In the absence of an approved extension, you cannot complete this assessment at a later time and you will receive a mark of zero for the assessment if you have not submitted it by the scheduled date and time.

Assessment Due Date

For Offering 1: 03/01/2024 5:00 pm AEST. For Offering 2: 14/02/2024 5:00 pm AEST.

Return Date to Students

Results will be released two weeks after the test date.

Weighting

50%

Minimum mark or grade

50%

Assessment Criteria

Question responses will be scored on the following criteria:

- factual correctness
- correct use of terminology
- correct application of concepts to the specific content of the question
- completeness and relevance of the response in addressing the question that was asked
- evidence of problem-solving skills

Referencing Style

- [Vancouver](#)

Submission

Online

Learning Outcomes Assessed

- Assess the performance of radiographic, fluoroscopic and ancillary equipment relative to quality standards.
- Troubleshoot imaging faults and equipment problems
- Apply metrics of image quality to describe and evaluate visibility and accuracy of structures demonstrated on radiographic images
- Relate radiographic equipment performance and the selection of image acquisition and processing parameters to patient dose and image quality
- Discuss the interconnections of imaging quality control, dose management, departmental quality management and compliance with external quality and safety standards for clinical imaging facilities.

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the [Student Academic Integrity Policy and Procedure](#). This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?

A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?

A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?

For academic advice and guidance, the [Academic Learning Centre \(ALC\)](#) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?



Be Honest

If your assessment task is done by someone else, it would be dishonest of you to claim it as your own



Seek Help

If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)



Produce Original Work

Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem