



MEDI12007 Quality Processes for Dose and Image Optimisation

Term 3 - 2022

Profile information current as at 20/04/2024 02:37 am

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.

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 and document findings. You will investigate the impact of technical factor selection on patient dose and image quality. Through these you will learn to make informed selections 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 MEDI12004 Medical Imaging Clinical Placement 1 MEDI12005 Science & Instrumentation 2

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 - 2022

- 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. **Practical and Written Assessment**

Weighting: 40%

2. **Online Test**

Weighting: 60%

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 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 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 balancing dose and image optimisation.

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 4: Evidence-informed practitioner:

- 1. Resolve challenges through application of critical thinking and reflective practice (Part a: Identify the challenge or question and the information that is needed to respond and Part 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 (Part a: Comply with relevant radiation safety legislation)
- 3. Implement quality assurance processes imaging or treating patients/clients (Part a: Check and confirm that all equipment is in good order and operating within acceptable parameters, Part b: Follow protocols to record details of all routine equipment checks, Part c: Identify and take appropriate action to correct unacceptable condition or operation of all equipment & Part 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
1 - Practical and Written Assessment - 40%			•	•	•
2 - Online Test - 60%	•	•	•	•	

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 - 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

Additional Textbook Information

The University Library has this e-book in its collection, with three concurrent users allowed. Students will be directed to multiple readings from this book and from other electronic resources during the unit.

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: [Harvard \(author-date\)](#)

For further information, see the Assessment Tasks.

Teaching Contacts

Caroline Falconi Unit Coordinator

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Schedule

OFFERING 1: Week 1 Introduction to Quality Processes in Diagnostic Imaging - 07 Nov 2022

Module/Topic	Chapter	Events and Submissions/Topic
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- Overview of quality management (QM), quality assurance (QA) and quality control (QC) in diagnostic imaging
- Subjective versus objective assessment of quality
- Quality standards and performance standards
- Connection of QA/QC to dose and image optimisation
- Scope of QA/QC in radiography
- Test tools for QA/QC in radiography
- Evaluation of quality of diagnostic tests
- Sensitivity, specificity, accuracy, gold standard, true positive (TP), false positive (FP), true negative (TN) and false negative (FN) in diagnostic tests
- Receiver operating curves
- Impacts of modification of image acquisition and processing parameters on detectability of anatomical information

Refer to the unit Moodle site for assigned readings.

Online tutorial 1 for Offering 1

OFFERING 1: Week 2 Quality Assurance of x-ray units and ancillary equipment (part 1) - 14 Nov 2022

Module/Topic	Chapter	Events and Submissions/Topic
<ul style="list-style-type: none"> • QC testing for visual inspection/check of equipment • Light beam alignment test • Location control/détente test • Grid alignment test • Grid uniformity test • AEC reproducibility test • AEC patient thickness compensation test • Radiation output test 	Refer to the unit Moodle site for assigned readings.	Online tutorial 2 for Offering 1

OFFERING 1: Week 3 Quality Assurance of digital imaging systems & Residential School - 21 Nov 2022

Module/Topic	Chapter	Events and Submissions/Topic
<ul style="list-style-type: none"> • CR image plate spot check, inspection and cleaning • Detector uniformity (flat field test) • Detector blurring • Limiting spatial resolution • Background dark noise • Ghosting or erasure test • Display monitor testing • DR detector calibration • Threshold contrast detail-detectability test 	Refer to the unit Moodle site for assigned readings.	Online tutorial 3 for Offering 1 3-day Residential school for Offering 1 (Wed 23/11/2022 - Fri 25/11/2022)

OFFERING 1: Week 4 Quality Assurance of x-ray units and ancillary equipment (part 2) - 28 Nov 2022

Module/Topic	Chapter	Events and Submissions/Topic
<ul style="list-style-type: none"> • kVp reproducibility test • kV compensation test • Reciprocity test • Linearity test • Half value layer (HVL) test 	Refer to the unit Moodle site for assigned readings.	Online tutorial 4 for Offering 1

OFFERING 1: Week 5 Quality Management in Diagnostic Imaging - 12 Dec 2022

Module/Topic	Chapter	Events and Submissions/Topic
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- QA programs for monitoring and maintaining performance
- Documentation and evidence of compliance
- QA/QC in fluoroscopy
- QA/QC for specialised radiography units

Refer to the unit Moodle site for assigned readings.

Online tutorial 5 for Offering 1

OFFERING 1: Week 6 Troubleshooting equipment issues - 19 Dec 2022

Module/Topic

Chapter

Events and Submissions/Topic

- Identifying and using symptoms to find the cause
- Systematic analysis using existing tools and processes
- Image artifacts: Types, causes and their appearances
- Preventing and/or minimising impact of image artifacts on image quality

Online tutorial 6 for Offering 1

Report on Dose and Image Optimisation due on Tuesday 20/12/2022 at 11:45 pm AEST for Offering 1

OFFERING 1: Final Assessment - 02 Jan 2023

Module/Topic

Chapter

Events and Submissions/Topic

Summative Online test for Offering 1 on Wednesday 04/01/2023

OFFERING 2: Week 1 Introduction to Quality Processes in Diagnostic Imaging - 03 Jan 2023

Module/Topic

Chapter

Events and Submissions/Topic

- Overview of quality management (QM), quality assurance (QA) and quality control (QC) in diagnostic imaging
- Subjective versus objective assessment of quality
- Quality standards and performance standards
- Connection of QA/QC to dose and image optimisation
- Scope of QA/QC in radiography
- Test tools for QA/QC in radiography
- Evaluation of quality of diagnostic tests
- Sensitivity, specificity, accuracy, gold standard, true positive (TP), false positive (FP), true negative (TN) and false negative (FN) in diagnostic tests
- Receiver operating curves
- Impacts of modification of image acquisition and processing parameters on detectability of anatomical information

Refer to the unit Moodle site for assigned readings.

Online tutorial 1 for Offering 2

OFFERING 2: Week 2 Quality Assurance of x-ray units and ancillary equipment (part 1) - 09 Jan 2023

Module/Topic

Chapter

Events and Submissions/Topic

- QC testing for visual inspection/check of equipment
- Light beam alignment test
- Location control/détente test
- Grid alignment test
- Grid uniformity test
- AEC reproducibility test
- AEC patient thickness compensation test
- Radiation output test

Refer to the unit Moodle site for assigned readings.

Online tutorial 2 for Offering 2

OFFERING 2: Week 3 Quality Assurance of digital imaging systems & Residential School - 16 Jan 2023

Module/Topic	Chapter	Events and Submissions/Topic
<ul style="list-style-type: none"> • CR image plate spot check, inspection and cleaning • Detector uniformity (flat field test) • Detector blurring • Limiting spatial resolution • Background dark noise • Ghosting or erasure test • Display monitor testing • DR detector calibration • Threshold contrast detail-detectability test 	Refer to the unit Moodle site for assigned readings.	Online tutorial 3 for Offering 2 3-day Residential school for Offering 2 (Wed 18/01/2023 - Fri 20/01/2023)

OFFERING 2: Week 4 Quality Assurance of x-ray units and ancillary equipment (part 2) - 23 Jan 2023

Module/Topic	Chapter	Events and Submissions/Topic
<ul style="list-style-type: none"> • kVp reproducibility test • kV compensation test • Reciprocity test • Linearity test • Half value layer (HVL) test 	Refer to the unit Moodle site for assigned readings.	Online tutorial 4 for Offering 2

OFFERING 2: Week 5 Quality Management in Diagnostic Imaging - 30 Jan 2023

Module/Topic	Chapter	Events and Submissions/Topic
<ul style="list-style-type: none"> • QA programs for monitoring and maintaining performance • Documentation and evidence of compliance • QA/QC in fluoroscopy • QA/QC for specialised radiography units 	Refer to the unit Moodle site for assigned readings.	Online tutorial 5 for Offering 2

OFFERING 2: Week 6 Troubleshooting equipment issues - 06 Feb 2023

Module/Topic	Chapter	Events and Submissions/Topic
<ul style="list-style-type: none"> • Identifying and using symptoms to find the cause • Systematic analysis using existing tools and processes • Image artifacts: Types, causes and their appearances • Preventing and/or minimising impact of image artifacts on image quality 		Online tutorial 6 for Offering 2 Report on Dose and Image Optimisation due on Tuesday 07/02/2023 at 11:45 pm AEST for Offering 2

OFFERING 2: Final Assessment - 13 Feb 2023

Module/Topic	Chapter	Events and Submissions/Topic
Independent consolidation and preparation for summative online test.		Summative Online test for Offering 2 on Wednesday 15/02/2023

Term Specific Information

This unit runs over a period of seven academic weeks. Since most students in the unit are undertaking a five week 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. Offering 2, in Weeks 7 - 13, is for students who have been allocated a clinical placement in November - December. Each offering has assessment due dates that are within its seven-week period.

There is a three day compulsory residential school for each offering. The dates are 23 - 25 November 2022 for Offering 1 and 18 - 20 January 2023 for Offering 2. Each day of the res school will run from 8:30 am - 5:00 pm AEST. 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 Australian government 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 an average of 23 hours per week, factoring in that your final test is on Wednesday of your seventh week. As you will need to have completed specific learning activities prior to the res school in Week 3, expect to spend about 26 hours per week during your first two weeks and 30 hours in the res school week.

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 is online and will be recorded only if at least three students attend.

Assessment Tasks

1 Report on Dose and Image Optimisation

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 use of appropriate technical parameters and on proper equipment performance. This assessment requires to apply concepts that you have learned and applied in prerequisite units as well as new learning in this unit to connect equipment use and condition 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. To ensure safe and effective use of radiation, it is essential that you recognise the symptoms of equipment issues, know how to troubleshoot to find the root cause and are aware of the impacts of the issue on your patients and their images.

Practical component:

The practical components of this assessment will be completed during the residential school. For the first component, you will work within a group to carry out a range of quality assurance activities and quality control tests on the x-ray equipment, image acquisition, processing and display system and on ancillary devices. As a group, you will collectively record your observations from your activities. This will support your ability to discuss the impact of equipment operation on dose and image optimisation.

The second practical component is the acquisition of a series of images of an anatomical test object. Your 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 five radiographs of the same projection of the object. The first, the baseline image, will be acquired with standard technical parameters. For each of the other four images, your group will modify one or more technical parameter with the goal of either reducing the patient's absorbed dose or increasing visibility of structures or doing both.

The third practical component requires that all students in all groups at the residential school view the resultant sets of images under the same viewing conditions. Each image will be displayed divided into four quadrants. For each quadrant, you will decide whether or not you detect a lesion within it and you will enter a confidence rating for that decision. All

anonymised confidence rating data will be collected and distributed to the students attending that residential school.

Written component:

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

Following the residential school, you will be assigned two images of one of the test objects that your group did not image. You will be provided the images and the associated data (including acquisition parameters and detection scores). You will compare the image appearances and quality attributes. You will then use the baseline image and its acquisition parameters as the 'established' diagnostic test for the lesion and the other image and its acquisition parameters as the 'new' diagnostic test for the lesion. You will calculate the sensitivity and specificity of each diagnostic test using the various thresholds of confidence levels as a positive test result. You will then plot an ROC curve for each test and calculate its area under the curve (AUC). Using the data and your analysis, you will determine which imaging method (the established or the new) you would recommend for clinical use. You will compare that to your own comparison of the image appearances and quality attributes.

For the second part of the written component, you will answer a series of questions to discuss the impacts of specific aspects of equipment performance and the selection of image acquisition and processing parameters on patient dose and image quality. This will include discussion of your group's images and the chosen modifications to technical parameters to achieve specific goals. (Note that you must attend the res school and participate in the acquisition of the images in order to address this part of the assignment.)

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

The written component is due on Tuesday of the sixth week of the unit offering you are undertaking.

Assessment Due Date

For Offering 1: Tuesday, 20 December 2022 11:45 pm AEST. For Offering 2: Tuesday 7 February, 2023 11:45 pm AEST

Return Date to Students

Results will be available two weeks after the due date.

Weighting

40%

Assessment Criteria

The assignment will be evaluated using the following criteria:

- completeness of all components relative to the posted assignment instructions
- correct selection and 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

- [Harvard \(author-date\)](#)

Submission

Online

Submission Instructions

The assignment file must be pdf format.

Learning Outcomes Assessed

- Apply metrics of image quality to describe and evaluate visibility and accuracy of 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 balancing dose and image optimisation.

2 2 Final Test

Assessment Type

Online Test

Task Description

You will complete a summative online test in the final seventh week of your Offering of the unit. The aim of this test is for you to demonstrate your ability to apply the concepts and the use of correct terminology the six weeks of unit material that relate to Unit Learning Outcomes 1 - 4. 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 you likely 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 performance standards of 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, 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 9:00 am - 12:00 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 12:00 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.

As per the assessment Procedures, this test must be written at the timetabled 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

Offering 1 test due date/time: 4 January 2023 12:00 pm AEST. Offering 2 test due date/time: 15 February 2023 12:00 pm AEST.

Return Date to Students

Scores will be released two weeks after the test date.

Weighting

60%

Minimum mark or grade

50%

Assessment Criteria

Question responses will be scored on the following criteria:

- correct use of terminology
- correct selection and 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

- [Harvard \(author-date\)](#)

Submission

Online

Learning Outcomes Assessed

- Assess the performance of radiographic 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 radiographic images
- Relate radiographic equipment performance and the selection of image acquisition and processing parameters to patient dose and image quality

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