



# ENMM20023 *Introduction to Asset and Maintenance Management*

## Term 1 - 2024

Profile information current as at 08/10/2024 09:25 am

All details in this unit profile for ENMM20023 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 is designed to introduce students to maintenance strategies, philosophies and procedures, including the basic principles of asset management systems. Students will investigate and report on key concepts relating to asset and maintenance management in their organisation. They will analyse causes and develop solutions to asset and maintenance management problems and recognise and apply quality control procedures and quality assurance systems. This unit also helps students to develop the multi-literacy skills they will require to be a successful learner.

### Details

Career Level: *Postgraduate*

Unit Level: *Level 8*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

### Pre-requisites or Co-requisites

There are no requisites for this unit.

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 - 2024

- Online

### 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 Postgraduate 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. **Written Assessment**

Weighting: 30%

#### 2. **Written Assessment**

Weighting: 40%

#### 3. **Presentation and Written Assessment**

Weighting: 30%

### 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 Evaluation

**Feedback**

A newly enrolled student particularly enjoyed the personal support, guidance and advice provided, which made it easy to follow and understand.

**Recommendation**

Good practices will be maintained and improved.

#### Feedback from SUTE

**Feedback**

The assignment sheets for each assessment changed weeks after they were given to us.

**Recommendation**

Assessments and marking rubrics will be peer-reviewed and finalised before uploading on Moodle.

#### Feedback from SUTE

**Feedback**

Very good course. The flexibility is a highlight, being able to swap around the lecture times to suit public holidays is great.

**Recommendation**

Lectures and tutorials are recorded and posted on moodle soon after the Zoom session. Flexibility in unit delivery will be maintained as much as possible.

## Unit Learning Outcomes

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

1. Develop multi-literacy skills required to become a successful learner, including reflection, communication, referencing and presentation skills
2. Investigate and report on the key concepts relating to asset and maintenance management in your organisation as outlined in asset management policy
3. Explain the management of maintenance from a business centred perspective
4. Analyse the causes and develop solutions to asset and maintenance management problems
5. Apply asset and maintenance management principles to improve organisational effectiveness as a part of the continuous improvement plan
6. Recognise and apply quality control procedures and quality assurance systems required in a quality management plan.

N/A

## 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 - Written Assessment - 30%	•	•	•			
2 - Written Assessment - 40%	•	•	•	•	•	
3 - Presentation and Written Assessment - 30%				•		•

### Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
1 - Knowledge	○	○	○	○	○	○
2 - Communication	○	○	○		○	○
3 - Cognitive, technical and creative skills		○	○	○	○	○
4 - Research		○	○	○	○	○
5 - Self-management	○	○			○	○
6 - Ethical and Professional Responsibility			○	○	○	○
7 - Leadership			○	○	○	○
8 - Aboriginal and Torres Strait Islander Cultures						

## Textbooks and Resources

### Textbooks

**There are no required textbooks.**

### IT Resources

**You will need access to the following IT resources:**

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Online lectures via zoom
- Recorded lectures

## Referencing Style

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

## Teaching Contacts

**Muralitheran V Kanagarajoo** Unit Coordinator

[m.kanagarajoo@cqu.edu.au](mailto:m.kanagarajoo@cqu.edu.au)

**Subhash Sharma** Unit Coordinator

[s.sharma2@cqu.edu.au](mailto:s.sharma2@cqu.edu.au)

## Schedule

### Week 1 - 04 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Asset & Maintenance Management	Hastings. Chapter 1 Study all topics of this week and practice self-check activities of this module on Moodle. Read this chapter before the class.	<ul style="list-style-type: none"><li>• Please check the Moodle webpage for scheduled online lectures and introduce yourself to the class via an online discussion forum.</li><li>• The lecture class will cover an overview of the management aspects of asset &amp; maintenance management and physical assets as a whole unit.</li><li>• Please keep two <b>evenings/afternoons free</b> in the next week for the <b>Online Residential School</b>. Days and time details will be discussed in the online class and will also be available on this unit's Moodle webpage. <b>Attendance is highly recommended.</b></li></ul>

### Week 2 - 11 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
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Residential School- Introduction to University Study & Writing Skill

Study all material uploaded on Moodle and practice self-check activities before attending the Residential school.

Join the **Online Residential School**, featuring Block A (Course Essentials) and Block B (Academic Writing). Each block is two hours long and will take place on two different evenings this week. Additional information can be found on the Moodle webpage. **Make sure not to miss this event!**

### Week 3 - 18 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Principles of Asset and Maintenance Management	Management concepts of assets & maintenance - all lecture files on Moodle for this week and practice self-check activities.	<ul style="list-style-type: none"><li>• The lecture and tutorial will cover Asset and Maintenance Management concepts</li><li>• A discussion on Continuous Improvement Plan</li><li>• A discussion on Assignment 1 questions</li><li>• Guest lecture on key elements of Asset &amp; Maintenance Management</li></ul>

### Week 4 - 25 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Continuous Improvement Plan	All files on asset & maintenance management as well as on Continuous Improvement Plan available on Moodle.	<ul style="list-style-type: none"><li>• Assessment 1 is due on Tuesday next week.</li><li>• Lecture on asset &amp; maintenance management principles</li><li>• Practice developing a Continuous improvement plan</li><li>• Final discussion on Assessment 1 questions.</li><li>• Academic Learning Centre (ALC) Lecture- Tips for writing assignments by ALC Lecturer.</li><li>• <b>This Tuesday is the Census Date, you cannot drop this unit without a financial penalty after this date.</b></li></ul>

### Week 5 - 01 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Business-Centered Maintenance	Kelly Chapter 1 Study all lecture files on Business centered approaches available on Moodle and practice self-check activities	<ul style="list-style-type: none"><li>• Assessment 1 is due Tuesday this week.</li><li>• The lecture on Business-Centred Maintenance will be followed by a discussion on a video related to maintenance practices as a part of the tutorial.</li><li>• A discussion on the overall requirements of Assessment 2.</li></ul> <p><b>Assessment 1</b> Due: Week 5 Tuesday (2 Apr 2024) 11:59 pm AEST</p>

### Vacation Week - 08 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Vacation Week		NO TEACHING THIS WEEK

### Week 6 - 15 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
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An Overview of ISO 55000 Suite of Standards.

Review ISO55000 and 55001 (access ISO 5500x Standards from CQU library)

- The Lecture will be on the topic and will be followed by the requirements of the questions relevant to Assessment 2.
- Tutorial activity- assess different Asset Management organizations within Australia and outside including their activities.
- A Discussion on the Development of an Asset Management Policy.

### Week 7 - 22 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Basic Principles and models of Asset Management	Refer to the AMBOK ( Asset Management Body of Knowledge) from Asset Management Council website.	<ul style="list-style-type: none"><li>• A Lecture on concepts and models used in asset management</li><li>• A discussion on a video shown in the class on asset management</li><li>• Discussion on Assessment 2 and practice on developing an Asset Management Policy statement as a tutorial activity.</li></ul>

### Week 8 - 29 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Financial Analysis and maintenance management Module 1-5 revise	Hastings, Chapter 5 Asset management policy lecture files and asset management policy templates.	<ul style="list-style-type: none"><li>• Assessment 2 is due Tuesday next week.</li><li>• A lecture on introduction to financial analysis in asset management.</li><li>• Practice developing an asset management policy as part of the tutorial activity.</li><li>• ALC Lecture: Providing feedback on the writing inadequacies found in Assignment 1.</li><li>• Guest Lecture on Asset Management and Financial indicators</li></ul>

### Week 9 - 06 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Quality Improvement Management	Review ISO 9001 Practice self-check activities, and start collecting information for Assignment 3	<ul style="list-style-type: none"><li>• Assessment 2 is due on Tuesday this week.</li><li>• Lecture on Quality management concepts.</li><li>• An overview of Assessment 3 and a discussion of the requirements for the assessment.</li><li>• Discussion on comparing requirements for ISO 9001 &amp; 55001</li></ul> <p><b>Assessment 2</b> Due: Week 9 Tuesday (7 May 2024) 11:59 pm AEST</p>

### Week 10 - 13 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Tools for Asset & Maintenance Management		<ul style="list-style-type: none"><li>• A lecture on the topic</li><li>• Discussion on the assessment questions and the quality improvement plan.</li><li>• Guest lecture and Tutorial on tools such as scheduling</li><li>• Discussion on PowerPoint slide requirements.</li></ul>

### Week 11 - 20 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Environment Health and Safety in Maintenance Quality	Lecture files are available on Moodle environment protection or OHS legislation. Students are required to search for OHS and environment rules applied in their own organisations.	<ul style="list-style-type: none"> <li>• A lecture on the topic</li> <li>• The Lecture will be followed by a discussion on Assessment 3</li> <li>• ALC Lecture - Preparing PowerPoint slides and improving assignment writing.</li> </ul>
<b>Week 12 - 27 May 2024</b>		
Module/Topic	Chapter	Events and Submissions/Topic
Quality Improvement and Occupational Health and Safety	Revision of all topics	<ul style="list-style-type: none"> <li>• Assessment 3 is due Tuesday next week.</li> <li>• Revision of the lectures on Quality Improvement and OHS and environment protection.</li> <li>• Discussion on Assessment 3.</li> </ul>
<b>Review/Exam Week - 03 Jun 2024</b>		
Module/Topic	Chapter	Events and Submissions/Topic
Assignment week	Non teaching week	<p>Assessment 3 is due Tuesday this week.</p> <p><b>Assessment 3</b> Due: Review/Exam Week Tuesday (4 June 2024) 11:59 pm AEST</p>
<b>Exam Week - 10 Jun 2024</b>		
Module/Topic	Chapter	Events and Submissions/Topic

## Term Specific Information

Lecturer: Mrs Sally Nugent (email: s.a.nugent@cqu.edu.au)

Unit Coordinator: Dr. Muralitheran V Kanagarajoo (m.kanagarajoo@cqu.edu.au)

Most of the teaching material is uploaded on Moodle or is available electronically from the CQU library. However, The following books available in the CQU library (student login required) are referenced in the schedule above.

1. "Physical Asset Management", Author; Nicholas A.J. Hastings
2. "Maintenance Organization and Systems", Author: Anthony Kelly.

## Assessment Tasks

### 1 Assessment 1

#### Assessment Type

Written Assessment

#### Task Description

Details of the assessment will be available on the unit's Moodle site. This assessment is based on the Asset and Maintenance management principles. In answering the questions, you will apply the theoretical processes learned in the classroom to your workplace. The main question will be focussed on the development of a Continuous Improvement plan for an activity or a process within your organization. You will be provided with a sample of a continuous improvement plan and a few templates that you will be required to contextualize to your organization or facility.

#### Assessment Due Date

Week 5 Tuesday (2 Apr 2024) 11:59 pm AEST

#### Return Date to Students

Week 7 Monday (22 Apr 2024)



It is expected that marked assessment will be returned within 2 weeks of the due date when submitted on time.

**Weighting**

30%

**Assessment Criteria**

This is a criterion-based assessment item. It is highly recommended that you read beyond the unit materials to complete assessment items. A detailed marking rubric is available on the unit Moodle website. Your submission for this assessment will be evaluated according to the following criteria:

- Demonstration of knowledge and understanding of concepts
- Evidence of research beyond own experience and unit material Clarity of expression, including use of terminology, ease of reading, spelling, and grammar, orderly and logical presentation, and use of diagrams to illustrate points.
- Quality of technical presentation including neatness, appropriate use of Figures and Tables
- Use of correct and accurate referencing techniques
- The assignment word count limit will apply.
- Marks will be allocated using a marking scheme that will be available on the Moodle website.

**Referencing Style**

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

**Submission**

Online

**Submission Instructions**

Assessment must be submitted electronically (in "MSWord" format NOT pdf) in Moodle. When uploading your assignment on Moodle, ensure you use the following file format, Example - Assessment 1.

**Learning Outcomes Assessed**

- Develop multi-literacy skills required to become a successful learner, including reflection, communication, referencing and presentation skills
- Investigate and report on the key concepts relating to asset and maintenance management in your organisation as outlined in asset management policy
- Explain the management of maintenance from a business centred perspective

## 2 Assessment 2

**Assessment Type**

Written Assessment

**Task Description**

Details of the assessment will be available on the unit Moodle website. This assessment is based upon the overview of the suite of ISO 55000 standards and Chapters 5, 18, and 29 of Hastings's book Physical Asset Management. Questions are based on the basic principles of asset management that you will apply to your workplace. You will also be required to develop an Asset Management policy for your organization as part of the assignment. Marks have been assigned to each part of the question, you must read each question carefully and answer each part. Be careful a word count limit will apply.

**Assessment Due Date**

Week 9 Tuesday (7 May 2024) 11:59 pm AEST

**Return Date to Students**

Week 11 Monday (20 May 2024)

It is expected that marked assessment will be returned within 2 weeks of the due date when submitted on time.

**Weighting**

40%

**Assessment Criteria**

Complete assessment items. A detailed marking guide is available on the unit Moodle site. Your submission for this assessment will be evaluated according to the following criteria:

- Demonstration of knowledge and understanding of concepts

- Evidence of research beyond own experience and unit material
- Clarity of expression, including use of terminology, ease of reading, spelling, and grammar, orderly and logical
- Presentation and use of diagrams to illustrate points.
- Quality of technical presentation including neatness and appropriate use of Figures and Tables
- Use of correct and accurate referencing techniques
- Assignment word count will apply.
- your statements must be supported by a reliable reference.
- Marks will be allocated using a marking scheme that will be available on the Moodle website.

### Referencing Style

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

### Submission

Online

### Submission Instructions

Assessment must be submitted electronically (in "MSWord" format NOT pdf) in Moodle. When uploading your assignment on Moodle, ensure you use the following file format, Example - Assessment 2.

### Learning Outcomes Assessed

- Develop multi-literacy skills required to become a successful learner, including reflection, communication, referencing and presentation skills
- Investigate and report on the key concepts relating to asset and maintenance management in your organisation as outlined in asset management policy
- Explain the management of maintenance from a business centred perspective
- Analyse the causes and develop solutions to asset and maintenance management problems
- Apply asset and maintenance management principles to improve organisational effectiveness as a part of the continuous improvement plan

## 3 Assessment 3

### Assessment Type

Presentation and Written Assessment

### Task Description

Details of the assessment will be available on the unit Moodle website. This assessment is based upon the unit Learning guide modules 1, 6, 7, and 8. In answering the questions, you will relate the theoretical processes you have read about in the learning material to your organization or facility. Quality management in maintenance and Health and safety in the industry including knowledge of legislation used in your organisation will be the main focus of this assessment. You will be required to improve a process or event by using appropriate quality management tools used in maintenance. Marks have been assigned to each part of the question, you must read the question carefully and answer each part. Remember, the word count limit will also apply in this assessment. It also requires you to prepare a set of PowerPoint slides to assess your communication skills.

### Assessment Due Date

Review/Exam Week Tuesday (4 June 2024) 11:59 pm AEST

### Return Date to Students

Assignment return dates are tentative, marks will be posted only after the approval of the School Course Committee meeting.

### Weighting

30%

### Assessment Criteria

This is a criterion-based assessment item. Please note that it is highly recommended that you read beyond the unit materials to complete assessment items. Your submission will be evaluated by the following criteria:

- Selection of problem, description of the problem, and supporting evidence.
- Plan for the solution of the problem, including a selection of relevant tools and techniques and the use of resources.

- Analysis of the problem.
- Development of the solution to improve the quality of the event or process.
- Quality of technical presentation including neatness of presentation, appropriate use of figures and tables, and referencing.
- Marks will be allocated for PowerPoint slides.
- Knowledge of health and safety-related legislation used in your organization, its purpose, source, and currency.

Marks will be allocated using a marking scheme that will be available on the Moodle website.

### **Referencing Style**

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

### **Submission**

Online

### **Submission Instructions**

Assessment must be submitted electronically (in "MSWord" format NOT pdf) in Moodle. When uploading your assignment on Moodle, ensure you use the following file format, Example - Assessment 3.

### **Learning Outcomes Assessed**

- Analyse the causes and develop solutions to asset and maintenance management problems
- Recognise and apply quality control procedures and quality assurance systems required in a quality management plan.

## 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