



# ENMM20025 *Maintenance Strategies*

## Term 1 - 2022

Profile information current as at 14/12/2025 12:39 pm

All details in this unit profile for ENMM20025 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

In this unit, you will examine the business drivers and operations strategy that impact on the maintenance decision-making framework. You will develop maintenance objectives and maintenance planning controls using a systems engineering framework. You will also develop asset life plans based upon the four known maintenance strategies.

#### 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

Prerequisite: ENMM20023 Introduction to Asset and Maintenance Management.

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 - 2022

- 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: 20%

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

Weighting: 30%

#### 3. **Written Assessment**

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 Student evaluations

**Feedback**

Students appreciated the knowledgeable and experienced industry lecturer and the relevance of the unit content.

**Recommendation**

Continue delivery of the unit by an experienced industry practitioner in order to ensure content is contemporary and relevant.

#### Feedback from Student evaluations

**Feedback**

Although the content has been reviewed in an effort to make it more relevant to a range of industries, some students commented that they felt the unit was still too focused on production processes and manufacturing.

**Recommendation**

Resources, case studies and assessment questions should be reviewed again to improve relevance to a broad range of industries.

#### Feedback from Student evaluations

**Feedback**

Some students indicated they would like more opportunities to ask questions and discuss content.

**Recommendation**

The structure of Zoom sessions should be reviewed to encourage more interaction.

## Unit Learning Outcomes

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

1. Research and analyse the business drivers and operations strategy including internal and external influences that impact on the maintenance decision-making framework
2. Define and develop maintenance objectives
3. Research and develop maintenance planning controls based upon Systems Engineering Plans, Configuration Management Plans and Asset Management Plans
4. Apply the business-centred maintenance (BCM) approach to develop or modify maintenance strategy
5. Develop and implement asset life plans based upon the four (4) known maintenance strategies.

## Alignment of Learning Outcomes, Assessment and Graduate Attributes

|                                                                                             |                                                                                                      |                                                                                                      |                                                                                                  |                                                                                                      |                                                                                                  |
|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
|  N/A Level |  Introductory Level |  Intermediate Level |  Graduate Level |  Professional Level |  Advanced Level |
|---------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|

### Alignment of Assessment Tasks to Learning Outcomes

| Assessment Tasks                    | Learning Outcomes |   |   |   |   |
|-------------------------------------|-------------------|---|---|---|---|
|                                     | 1                 | 2 | 3 | 4 | 5 |
| <b>1 - Written Assessment - 20%</b> | •                 |   | • |   |   |
| <b>2 - Written Assessment - 30%</b> | •                 | • | • | • |   |
| <b>3 - Written Assessment - 50%</b> |                   | • | • | • | • |

### Alignment of Graduate Attributes to Learning Outcomes

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

## 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)
- Study Guide uploaded on the unit website

## Referencing Style

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

## Teaching Contacts

**Fae Martin** Unit Coordinator

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## Schedule

### Week 1 - 07 Mar 2022

| Module/Topic | Chapter                                       | Events and Submissions/Topic                                                                                         |
|--------------|-----------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| Module 1     | Industrial organisations and life cycle costs | All lectures are online through the Zoom app.<br>Lecture 1 - Wednesday 09/03/22 @ 8:00pm AEDT (daylight saving time) |

### Week 2 - 14 Mar 2022

| Module/Topic | Chapter                                                       | Events and Submissions/Topic                                        |
|--------------|---------------------------------------------------------------|---------------------------------------------------------------------|
| Module 2     | Formulating maintenance strategy, a business centred approach | Lecture 2 - Wednesday 16/03/22 @ 8:00pm AEDT (daylight saving time) |

### Week 3 - 21 Mar 2022

| Module/Topic | Chapter                            | Events and Submissions/Topic                                                                                                                                            |
|--------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Module 3     | The structure of industrial assets | Lecture 3 - Wednesday 23/03/22 @ 8:00pm AEDT (daylight saving time)<br>Finalise Assignment 1.<br><br><b>Assignment 1</b> Due: Week 3 Friday (25 Mar 2022) 11:45 pm AEST |

### Week 4 - 28 Mar 2022

| Module/Topic | Chapter                | Events and Submissions/Topic                                        |
|--------------|------------------------|---------------------------------------------------------------------|
| Module 4     | Maintenance objectives | Lecture 4 - Wednesday 30/03/22 @ 8:00pm AEDT (daylight saving time) |

### Week 5 - 04 Apr 2022

| Module/Topic | Chapter                                                                     | Events and Submissions/Topic                                                                             |
|--------------|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Module 5     | Preventative maintenance decision making<br>Part 1: Concepts and techniques | Lecture 5 - Wednesday 06/04/22 @ 8:00pm AEST<br>Please note the 1 hour change from daylight saving time. |

### Vacation Week - 11 Apr 2022

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------|---------|------------------------------|
|              |         | No lecture this week.        |

### Week 6 - 18 Apr 2022

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------|---------|------------------------------|
|--------------|---------|------------------------------|

|                                       |                                                                                |                                                                                                                                                  |
|---------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| Module 6                              | Preventative maintenance decision making<br>Part 2: Maintenance task selection | No lecture this week.                                                                                                                            |
| <b>Week 7 - 25 Apr 2022</b>           |                                                                                |                                                                                                                                                  |
| <b>Module/Topic</b>                   | <b>Chapter</b>                                                                 | <b>Events and Submissions/Topic</b>                                                                                                              |
| Module 7                              | Maintenance task selection using reliability maintenance                       | Lecture 6 - Wednesday 27/04/22 @ 8:00pm AEST<br>Finalise Assignment 2.<br><br><b>Assignment 2</b> Due: Week 7 Friday (29 Apr 2022) 11:45 pm AEST |
| <b>Week 8 - 02 May 2022</b>           |                                                                                |                                                                                                                                                  |
| <b>Module/Topic</b>                   | <b>Chapter</b>                                                                 | <b>Events and Submissions/Topic</b>                                                                                                              |
| Module 8                              | Determining the asset life plan and schedule                                   | Lecture 7 - Wednesday 04/05/22 @ 8:00pm AEST                                                                                                     |
| <b>Week 9 - 09 May 2022</b>           |                                                                                |                                                                                                                                                  |
| <b>Module/Topic</b>                   | <b>Chapter</b>                                                                 | <b>Events and Submissions/Topic</b>                                                                                                              |
| Module 9                              | Lean maintenance                                                               | Lecture 8 - Wednesday 11/05/22 @ 8:00pm AEST                                                                                                     |
| <b>Week 10 - 16 May 2022</b>          |                                                                                |                                                                                                                                                  |
| <b>Module/Topic</b>                   | <b>Chapter</b>                                                                 | <b>Events and Submissions/Topic</b>                                                                                                              |
| Module 10                             | Asset reliability maintenance control                                          | No lecture this week.                                                                                                                            |
| <b>Week 11 - 23 May 2022</b>          |                                                                                |                                                                                                                                                  |
| <b>Module/Topic</b>                   | <b>Chapter</b>                                                                 | <b>Events and Submissions/Topic</b>                                                                                                              |
| Module 11                             | Management of asset turnarounds                                                | Interactive session Wednesday 25/05/22 @ 8:00pm AEST<br>Recap of the unit. Clarification of final assessment.                                    |
| <b>Week 12 - 30 May 2022</b>          |                                                                                |                                                                                                                                                  |
| <b>Module/Topic</b>                   | <b>Chapter</b>                                                                 | <b>Events and Submissions/Topic</b>                                                                                                              |
| Mini-project                          | Time to review unit and finalise mini-project                                  | No lecture this week.<br>Finalise Mini-project.<br><br><b>Mini Project</b> Due: Week 12 Friday (3 June 2022) 11:45 pm AEST                       |
| <b>Review/Exam Week - 06 Jun 2022</b> |                                                                                |                                                                                                                                                  |
| <b>Module/Topic</b>                   | <b>Chapter</b>                                                                 | <b>Events and Submissions/Topic</b>                                                                                                              |
| <b>Exam Week - 13 Jun 2022</b>        |                                                                                |                                                                                                                                                  |
| <b>Module/Topic</b>                   | <b>Chapter</b>                                                                 | <b>Events and Submissions/Topic</b>                                                                                                              |
|                                       |                                                                                | No further lectures or assessment for this unit.                                                                                                 |

## Assessment Tasks

### 1 Assignment 1

#### Assessment Type

Written Assessment

#### Task Description

The details of the assessment will be available on the unit Moodle site.  
This assessment is based upon the unit learning modules 1 - 3.

In answering the questions, you will relate the theoretical processes you have read about in the learning material to your own organisation or facility.

**Assessment Due Date**

Week 3 Friday (25 Mar 2022) 11:45 pm AEST

**Return Date to Students**

Week 5 Friday (8 Apr 2022)

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

**Weighting**

20%

**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 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, appropriate use of Figures and Tables
- Use of correct and accurate referencing techniques
- Assignment word count

Note that late submissions will be penalised according to the CQU Assessment Policy and Procedure.

**Referencing Style**

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

**Submission**

Online

**Submission Instructions**

Assignments 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 - 'Albert Jones\_s024789\_ENMM20025\_Assignment 1'.

**Learning Outcomes Assessed**

- Research and analyse the business drivers and operations strategy including internal and external influences that impact on the maintenance decision-making framework
- Research and develop maintenance planning controls based upon Systems Engineering Plans, Configuration Management Plans and Asset Management Plans

## 2 Assignment 2

**Assessment Type**

Written Assessment

**Task Description**

The details of this assessment item will be available on the unit Moodle site.

This assessment is based upon the unit learning modules 1 - 6.

In this assessment, you will critique and review elements of the maintenance strategy within your organisation or facility, relating it to the theoretical processes you have read about in the learning material.

**Assessment Due Date**

Week 7 Friday (29 Apr 2022) 11:45 pm AEST

**Return Date to Students**

Week 9 Friday (13 May 2022)

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 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, appropriate use of Figures and Tables
- Use of correct and accurate referencing techniques
- Assignment word count

Note that late submissions will be penalised according to the CQU Assessment Policy and Procedure.

**Referencing Style**

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

**Submission**

Online

**Submission Instructions**

Assignments must be submitted electronically (in "MSWord" format NOT pdf) in Moodle. When uploading your assignment in Moodle, ensure you use the following file format, Example - 'Albert Jones\_s024789\_ENMM20025\_Assignment 2'.

**Learning Outcomes Assessed**

- Research and analyse the business drivers and operations strategy including internal and external influences that impact on the maintenance decision-making framework
- Define and develop maintenance objectives
- Research and develop maintenance planning controls based upon Systems Engineering Plans, Configuration Management Plans and Asset Management Plans
- Apply the business-centred maintenance (BCM) approach to develop or modify maintenance strategy

### 3 Mini Project

**Assessment Type**

Written Assessment

**Task Description**

The details of the assessment will be available on the unit Moodle site.

This assessment is based upon the unit learning modules 1 - 11.

In answering the questions, you will relate the theoretical processes you have read about in the learning material to your own organisation or facility.

**Assessment Due Date**

Week 12 Friday (3 June 2022) 11:45 pm AEST

**Return Date to Students**

Exam Week Friday (17 June 2022)

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

**Weighting**

50%

**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 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, appropriate use of Figures and Tables
- Use of correct and accurate referencing techniques
- Assignment word count

Note that late submissions will be penalised according to the CQU Assessment Policy and Procedure.

### **Referencing Style**

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

### **Submission**

Online

### **Learning Outcomes Assessed**

- Define and develop maintenance objectives
- Research and develop maintenance planning controls based upon Systems Engineering Plans, Configuration Management Plans and Asset Management Plans
- Apply the business-centred maintenance (BCM) approach to develop or modify maintenance strategy
- Develop and implement asset life plans based upon the four (4) known maintenance strategies.

## 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