



# ENEG14003 Engineering Honours Project

## Planning

### Term 1 - 2024

Profile information current as at 19/05/2024 04:13 am

All details in this unit profile for ENEG14003 have been officially approved by CQUUniversity 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

As a student in the final year of your Bachelor of Engineering (Honours) course, you will work independently to plan a project that allows you to demonstrate technical and professional capabilities (Engineers Australia's Stage One Competencies) expected of graduating professional engineers. You will conduct research, demonstrate critical thinking, and document sound analysis, decision-making, and judgment to support your project. You will work and learn autonomously, prepare and adhere to work and reporting schedules, communicate progress, and prepare formal and informal project documents. You will define and scope your project, apply technical knowledge, assess safety and risks, and prepare a proposal and plan for implementing the project in the following implementation unit. Note: Before enrolment can be accepted, you must confirm with the Unit Coordinator that you have identified a suitable project, obtained an academic adviser, and have successfully completed all nominal prior units in the course.

### Details

Career Level: *Undergraduate*

Unit Level: *Level 4*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

### Pre-requisites or Co-requisites

144 unit credits AND {pre-requisite of ENEC14016 or ENEC14017 or ENEC14014 or ENEE14006 or ENEE14007 or ENEE14005 or ENEM14016 or ENEM14015 or ENEM14014 or ENEX13001 or ENEX14001}

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

- Bundaberg
- Cairns
- Gladstone
- Mackay
- Online
- Rockhampton

### 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 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. **Written Assessment**

Weighting: 10%

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

Weighting: 10%

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

Weighting: 10%

#### 4. **Written Assessment**

Weighting: 70%

### 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 Class feedback and UC reflections

**Feedback**

Students appreciate the evening weekly Zoom open discussion sessions.

**Recommendation**

Continue to offer weekly evening Zoom sessions combined with thesis planning and implementation students to create a supportive environment for delivering the honours projects.

#### Feedback from UC Reflections

**Feedback**

Strengthen student self-assessment of project alignment to the UN Sustainable Development Goals.

**Recommendation**

Revise the marking rubric to encourage students to align their project to specific targets within the UN Sustainable Development Goals Framework.

#### Feedback from Student Evaluations

**Feedback**

Students would like more timely feedback to facilitate greater project improvements

**Recommendation**

Continue to remind Academic Advisors to return feedback within two weeks. Also, encourage staff to use online feedback forms for presentations to provide rapid feedback.

## Unit Learning Outcomes

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

1. Apply and reflect on Engineers Australia's Stage One Competencies for Professional Engineers with respect to the planning and implementation phases of engineering projects
2. Prepare a project scope that includes a project definition, identification of project stakeholders, and expected milestones and deliverables
3. Research critical areas of your project by evaluating and extracting information from key reputable sources and relevant authorities
4. Identify the tasks required for the implementation phases, including the application of appropriate technical capability developed in preceding units of study, and integration with new capabilities necessary to form a comprehensive project plan
5. Prepare a project proposal that justifies the continuation of the project into the implementation phases.

**The Learning Outcomes for this unit are linked with the Engineers Australia Stage 1 Competency Standards for Professional Engineers in the areas of 1. Knowledge and Skill Base, 2. Engineering Application Ability and 3. Professional and Personal Attributes at the following levels:**

**Advanced**

**1.1 Comprehensive, theory-based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline. (LO: 1A 2A 3A 4A 5A)**

**1.2 Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline. (LO: 1A 2A 3A 4A 5A)**

**1.3 In-depth understanding of specialist bodies of knowledge within the engineering discipline. (LO: 1A 2A 3A 4A 5A)**

1.4 Discernment of knowledge development and research directions within the engineering discipline. (LO: 1A 2A 3A 4A 5A)

1.5 Knowledge of engineering design practice and contextual factors impacting the engineering discipline. (LO: 1A 2A 3A 4A 5A)

1.6 Understanding of the scope, principles, norms, accountabilities, and bounds of sustainable engineering practice in the specific discipline. (LO: 1A 2A 3A 4A 5A)

2.1 Application of established engineering methods to complex engineering problem solving. (LO: 1A 2A 3A 4A 5A)

2.2 Fluent application of engineering techniques, tools, and resources. (LO: 1A 2A 3A 4A 5A)

2.3 Application of systematic engineering synthesis and design processes. (LO: 1A 2A 3A 4A 5A)

2.4 Application of systematic approaches to the conduct and management of engineering projects. (LO: 1A 2A 3A 4A 5A)

3.1 Ethical conduct and professional accountability. (LO: 1A 2A 5A)

3.2 Effective oral and written communication in professional and lay domains. (LO: 1A 2A 3A 4A 5A)

3.3 Creative, innovative, and pro-active demeanour. (LO: 1A 2A 3A 4A 5A)

3.4 Professional use and management of information. (LO: 1A 2A 3A 4A 5A)

3.5 Orderly management of self, and professional conduct. (LO: 1A 5A)

*Note: LO refers to the Learning Outcome number(s) which link to the competency and the levels: N - Introductory, I - Intermediate and A - Advanced.*

Refer to the Engineering Undergraduate Course Moodle site for further information on the Engineers Australia's Stage 1 Competency Standard for Professional Engineers and course level mapping information

<https://moodle.cqu.edu.au/course/view.php?id=1511>



## 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 - 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

**There are no required textbooks.**

### IT Resources

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

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Presentation software such as MS Powerpoint
- Project management software such as MS Project
- Software specific to project
- Webcam and headset for on-line sessions.
- Word processing software such as MS Word

## Referencing Style

All submissions for this unit must use the referencing styles below:

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

For further information, see the Assessment Tasks.

## Teaching Contacts

**Nur Hassan** Unit Coordinator  
[n.hassan@cqu.edu.au](mailto:n.hassan@cqu.edu.au)

## Schedule

### Week 1 - Choose - 04 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
<b>Choose</b> your project topic and Advisor/s	Objective: Explore many project options	Read the Marking Rubric Organise weekly meetings with Advisor/s Complete the <a href="#">Progress Update form</a>

### Week 2 - Research - 11 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
<b>Research</b> background information and similar projects	Objective: Know <b>WHY</b> you should do this project	Share a draft of your background research, aim and objectives with your Advisor/s Complete the <a href="#">Progress Update form</a>

### Week 3 - Propose - 18 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
<b>Propose</b> the initial scope and Stakeholder Engagement Strategy	Objective: Know <b>WHO</b> can assist you	If there is potential for lab-based activities, meet with your Laboratory Supervisor/Instructor to discuss the project this week. Complete the <a href="#">Progress Update form</a>

### Week 4 - Prepare - 25 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
<b>Prepare</b> the Project Introduction, Scope and Annotated Bibliography	Objective: Know <b>WHAT</b> to include	Complete the <a href="#">Progress Update form</a> <b>Project Introduction and Annotated Bibliography</b> Due: Week 4 Friday (29 Mar 2024) 11:55 pm AEST

### Week 5 - Expand - 01 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
<b>Expand</b> your research to commence the Literature Review	Objective: Identify and explore relevant fields of knowledge	Complete the <a href="#">Progress Update form</a>

### Vacation Week - 08 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Catch up and enjoy a break	Catch up and enjoy a break	Catch up and enjoy a break

### Week 6 - Apply - 15 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
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**Apply** feedback on Assignment 1 from your Advisor/s

Objective: Seek feedback on your draft Literature Review

Complete the [Progress Update form](#)

#### Week 7 - Create - 22 Apr 2024

Module/Topic

Chapter

Events and Submissions/Topic

**Create** your Literature Review and Updated Introduction

Objective: Understand the published literature that will assist you

Complete the [Progress Update form](#)

**Literature Review and Updated Project Introduction** Due: Week 7 Friday (26 Apr 2024) 11:55 pm AEST

#### Week 8 - Comprehend - 29 Apr 2024

Module/Topic

Chapter

Events and Submissions/Topic

**Comprehend** the applied methodologies and inherent project risks relevant to your topic

Objective: Consider different approaches to achieve your project aim

Complete the [Progress Update form](#)

#### Week 9 - Plan - 06 May 2024

Module/Topic

Chapter

Events and Submissions/Topic

**Plan** your Work Breakdown Structure and Project Schedule

Objective: Seek feedback on your draft methodology

Complete the [Progress Update form](#)

#### Week 10 - Devise - 13 May 2024

Module/Topic

Chapter

Events and Submissions/Topic

**Devise** your Project Methodology and Risk Assessment

Objective: Know **HOW** to complete your project

Complete the [Progress Update form](#)

**Proposed Methodology and Updated Literature Review** Due: Week 10 Friday (17 May 2024) 11:55 pm AEST

#### Week 11 - Consolidate - 20 May 2024

Module/Topic

Chapter

Events and Submissions/Topic

**Consolidate** your assignments into a Draft Project Proposal

Objective: Know **WHEN** everything must be done

Organise attending the Thesis presentations on Wednesday afternoon next week. Establish your own criteria to review the presentations based on the EA Stage 1 Competencies Complete the [Progress Update form](#)

#### Week 12 - Reflect - 27 May 2024

Module/Topic

Chapter

Events and Submissions/Topic

**Reflect** on student presentations and feedback from Assignments 2 and 3

Objective: Seek final feedback and acceptance from your Advisor/s

Watch the Thesis presentations live on Wednesday, if you can. Complete the [Progress Update form](#)

#### Review/Exam Week - 03 Jun 2024

Module/Topic

Chapter

Events and Submissions/Topic

**Finalise** by polishing and submitting your Project Proposal

Objective: Have confidence in your Project Proposal

Complete the [Progress Update form](#)

**Project Proposal and Presentation Reviews** Due: Review/Exam Week Friday (7 June 2024) 11:55 pm AEST

#### Exam Week - 10 Jun 2024

Module/Topic

Chapter

Events and Submissions/Topic

## Assessment Tasks

# 1 Project Introduction and Annotated Bibliography

## Assessment Type

Written Assessment

## Task Description

After meeting(s) with your Academic Advisor and other project stakeholders where appropriate, prepare your Project Introduction and Annotated Bibliography. Refer to the Marking Rubric for indicators of attainment for the assessment criteria:

1. Language
2. Structure
3. Presentation
4. Background research
5. Project Aim
6. Project Objectives
7. Project Scope
8. Anticipated Outcomes
9. United Nations Sustainable Development Goals
10. Stakeholder Communication
11. Annotated bibliography
12. Project Management

Check Moodle and the Q&A Forum for further assessment advice. Complete this assessment by the due date to ensure sufficient time to plan your project properly. Delayed submissions or significant changes to the initial project scope beyond this time are likely to cause substantial difficulties.

## Assessment Due Date

Week 4 Friday (29 Mar 2024) 11:55 pm AEST

## Return Date to Students

Academic Advisors will endeavor to provide feedback within 2 weeks of the submission deadline for on-time submissions.

## Weighting

10%

## Minimum mark or grade

25%

## Assessment Criteria

Moodle contains a Master Marking Rubric for all assessments. The rubric explains expectations through indicators of attainment at various grading levels. Understanding the marking rubric is critical to pass this unit. Students should look at the marking rubric before starting each assessment, again while working on all assessments, and as a final check before submitting.

## Referencing Style

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

## Submission

Online

## Learning Outcomes Assessed

- Prepare a project scope that includes a project definition, identification of project stakeholders, and expected milestones and deliverables

# 2 Literature Review and Updated Project Introduction

## Assessment Type

Written Assessment

## Task Description

Apply your Academic Advisor's feedback to update your Project Introduction, which will become Chapter 1 in your Project Proposal.

Convert and expand your Annotated Bibliography into a Literature Review. Refer to the Marking Rubric for indicators of



attainment for the assessment criteria:

1. Language
2. Structure
3. Presentation
4. Referencing Style
5. Information Sources
6. Comprehension
7. Knowledge Synthesis
8. Knowledge Gap
9. Project Management

Check Moodle and the Q&A Forum for further assessment advice. Complete this assessment by the due date to ensure sufficient time to plan your project properly. Delayed submissions or limited reviews of published literature are likely to cause substantial difficulties.

#### **Assessment Due Date**

Week 7 Friday (26 Apr 2024) 11:55 pm AEST

#### **Return Date to Students**

Academic Advisors will endeavor to provide feedback within 2 weeks of the submission deadline for on-time submissions.

#### **Weighting**

10%

#### **Minimum mark or grade**

25%

#### **Assessment Criteria**

Moodle contains a Master Marking Rubric for all assessments. The rubric explains expectations through indicators of attainment at various grading levels. Understanding the marking rubric is critical to pass this unit. Students should look at the marking rubric before starting each assessment, again while working on all assessments, and as a final check before submitting.

#### **Referencing Style**

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

#### **Submission**

Online

#### **Learning Outcomes Assessed**

- Research critical areas of your project by evaluating and extracting information from key reputable sources and relevant authorities

## 3 Proposed Methodology and Updated Literature Review

#### **Assessment Type**

Written Assessment

#### **Task Description**

Apply your Academic Advisor's feedback to update your Literature Review, which will become Chapter 2 in your Project Proposal.

Propose your Project Methodology. Refer to the Marking Rubric for indicators of attainment for the assessment criteria:

1. Language
2. Structure
3. Presentation
4. Methods
5. Justification
6. Referencing and Linkages
7. Work Breakdown Structure
8. Schedule
9. Risk Assessment
10. Project Management

Check Moodle and the Q&A Forum for further assessment advice. Complete this assessment by the due date to ensure sufficient time for final feedback from your Academic Advisor before your Project Proposal undergoes the anonymous review by two other academics.

**Assessment Due Date**

Week 10 Friday (17 May 2024) 11:55 pm AEST

**Return Date to Students**

Academic Advisors will endeavor to provide feedback within 2 weeks of the submission deadline for on-time submissions.

**Weighting**

10%

**Minimum mark or grade**

25%

**Assessment Criteria**

Moodle contains a Master Marking Rubric for all assessments. The rubric explains expectations through indicators of attainment at various grading levels. Understanding the marking rubric is critical to pass this unit. Students should look at the marking rubric before starting each assessment, again while working on all assessments, and as a final check before submitting.

**Referencing Style**

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

**Submission**

Online

**Learning Outcomes Assessed**

- Identify the tasks required for the implementation phases, including the application of appropriate technical capability developed in preceding units of study, and integration with new capabilities necessary to form a comprehensive project plan

## 4 Project Proposal and Presentation Reviews

**Assessment Type**

Written Assessment

**Task Description**

Apply all feedback from your Academic Advisor and project stakeholders where relevant, to prepare your Project Proposal for anonymous review by two academics. Your proposal should justify continuing into the implementation phase. Refer to the Marking Rubric for indicators of attainment for the assessment criteria:

1. Initial pages
2. Plan Summary
3. All criteria for previous assessments are also repeated
4. Plan Conclusion
5. Reviews of Previous Presentations

Using Engineers Australia's Stage One Competencies as a framework, professionally review at least five historical or current thesis presentations from CQU engineering students. Thesis presentations usually run live on Wednesday of week 12, 1-5 pm AEST. Include your reviews of thesis presentations in the first appendix of your Project Proposal.

Your Project Proposal should be structured as follows:

- Title Page
- Summary
- Acknowledgments
- Table of Contents
- List of Figures
- List of Tables
- Glossary/Nomenclature
- Chapter 1 Introduction to the Project Proposal
- Chapter 2 Literature Review

- Chapter 3 Proposed Project Methodology
- Chapter 4 Proposed Implementation Plan
- Chapter 5 Risk Assessment
- Conclusion
- References
- Appendix 1 - Professional Reviews
- Other appendices as appropriate

Check Moodle and the Q&A Forum for further assessment advice.

**Assessment Due Date**

Review/Exam Week Friday (7 June 2024) 11:55 pm AEST

**Return Date to Students**

At certification of grades

**Weighting**

70%

**Minimum mark or grade**

50%

**Assessment Criteria**

Moodle contains a Master Marking Rubric for all assessments. The rubric explains expectations through indicators of attainment at various grading levels. Understanding the marking rubric is critical to pass this unit. Students should look at the marking rubric before starting each assessment, again while working on all assessments, and as a final check before submitting.

**Referencing Style**

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

**Submission**

Online

**Learning Outcomes Assessed**

- Apply and reflect on Engineers Australia's Stage One Competencies for Professional Engineers with respect to the planning and implementation phases of engineering projects
- Prepare a project scope that includes a project definition, identification of project stakeholders, and expected milestones and deliverables
- Research critical areas of your project by evaluating and extracting information from key reputable sources and relevant authorities
- Identify the tasks required for the implementation phases, including the application of appropriate technical capability developed in preceding units of study, and integration with new capabilities necessary to form a comprehensive project plan
- Prepare a project proposal that justifies the continuation of the project into the implementation phases.

## 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