



# ENRP20003 Engineering Research Project Implementation

## Term 1 - 2024

Profile information current as at 13/05/2024 05:51 am

All details in this unit profile for ENRP20003 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 so that students can complete an investigative study through the analysis of, reflection on and critique of, an area of their professional practice that was commenced in Engineering Research Project Planning. By completing this project, students will contribute to the body of knowledge for their discipline. Students will present their project in a thesis and a professional presentation.

### Details

Career Level: *Postgraduate*

Unit Level: *Level 9*

Credit Points: *12*

Student Contribution Band: *8*

Fraction of Full-Time Student Load: *0.25*

### Pre-requisites or Co-requisites

Prerequisite: ENRP20001 Engineering Research Project Planning

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

- Melbourne
- 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 12-credit Postgraduate unit at CQUniversity requires an overall time commitment of an average of 25 hours of study per week, making a total of 300 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. **Report**

Weighting: 20%

#### 2. **Presentation**

Weighting: 20%

#### 3. **Portfolio**

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 evaluation

**Feedback**

Very happy with the course overall. Improvement has been made for clear feedback marking criteria.

**Recommendation**

Will continue this practice in the next offering.

#### Feedback from Unit evaluation

**Feedback**

Some feedback did not help to improve.

**Recommendation**

Reviewers will be more preciously allocated based on the project scope and expertise.

#### Feedback from Unit evaluation

**Feedback**

The gap between the presentation and the final thesis submission is one week.

**Recommendation**

The final thesis submission can be moved a few days into exam week to increase the gap.

## Unit Learning Outcomes

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

1. Implement the project plan prepared in the planning unit with consultation and guidance from your project advisers and stakeholders
2. Think critically, demonstrate sound analysis, and make rational, justifiable decisions in order to find the optimal, sustainable solution
3. Demonstrate leadership by contributing to the body of knowledge related to the discipline area and participating in professional networks
4. Communicate preliminary results to stakeholders through interim and regular progress reports to solicit timely and constructive feedback
5. Communicate findings using written and oral methods to inform both internal and external workplace practising professionals
6. Critically reflect on self-performance and develop a plan for lifelong and professional learning.

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: 2A )
- 1.2 Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline. (LO: 2A )
- 1.3 In-depth understanding of specialist bodies of knowledge within the engineering discipline. (LO: 2A )
- 1.4 Discernment of knowledge development and research directions within the engineering discipline. (LO: 2A )
- 1.5 Knowledge of engineering design practice and contextual factors impacting the engineering discipline. (LO: 2A )
- 1.6 Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline. (LO: 1A 3A )
- 2.1 Application of established engineering methods to complex engineering problem solving. (LO: 1A 2A )
- 2.2 Fluent application of engineering techniques, tools and resources. (LO: 1A 2A )
- 2.3 Application of systematic engineering synthesis and design processes. (LO: 1A 2A )
- 2.4 Application of systematic approaches to the conduct and management of engineering projects. (LO: 1A )
- 3.1 Ethical conduct and professional accountability. (LO: 2A 6A )
- 3.2 Effective oral and written communication in professional and lay domains. (LO: 3A 4A 5A )
- 3.3 Creative, innovative and pro-active demeanour. (LO: 2A )
- 3.4 Professional use and management of information. (LO: 2A 4A 5A )
- 3.5 Orderly management of self, and professional conduct. (LO: 6A )

*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 Postgraduate Units 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=11382>

## 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
<b>1 - Report - 20%</b>	•			•		•

Assessment Tasks	Learning Outcomes					
	1	2	3	4	5	6
2 - Presentation - 20%		•	•		•	
3 - Portfolio - 60%	•	•	•	•	•	

## 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						

## Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes							
	1	2	3	4	5	6	7	8
1 - Report - 20%	○	○	○	○	○			
2 - Presentation - 20%	○	○	○	○		○	○	
3 - Portfolio - 60%	○	○	○	○		○	○	

## 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)

## Referencing Style

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

## Teaching Contacts

**Mehdi Mirzababaei** Unit Coordinator  
[m.mirzababaei@cqu.edu.au](mailto:m.mirzababaei@cqu.edu.au)

## Schedule

### Week 1 - 04 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Unit overview and discussion on assessment items. Organise a weekly meeting time and place for face-to-face or online (via Zoom) with your project supervisor. Discuss with your project supervisor how to address reviewers' feedback, advice and guidance on your planning report. Prepare a new project plan if required. Commence the implementation plan of your project. Prepare project report layout.	Week 1 Lecture materials.	<b>Activity:</b> Meet with your project supervisor weekly and share your progress in the meeting. You must prepare the meeting agenda items and forward them to your advisor before the meeting every week for discussion. Request your supervisor to update your weekly meeting attendance record in the online sheet.

### Week 2 - 11 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Report: Work on the introduction and objectives to revise and update.	Week 2 Lecture materials.	<b>Activity:</b> Meet with your project supervisor weekly and share your progress in the meeting. You must prepare the meeting agenda items and forward them to your advisor before the meeting every week for discussion.

### Week 3 - 18 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
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Report: Work on a literature review to revise and update.  
Discussion on Assessment 1 requirements and marking criteria.

Week 3 Lecture materials.

**Activity:**

Meet with your project supervisor weekly and share your progress in the meeting. You must prepare the meeting agenda items and forward them to your advisor before the meeting every week for discussion.

**Week 4 - 25 Mar 2024**

**Module/Topic**

**Chapter**

**Events and Submissions/Topic**

Report: Work on research methodology to revise and update.  
Discussion and support on how to prepare and present the Assessment 1 report.

Week 4 Lecture materials.

**Activity:**

Meet with your project supervisor weekly and share your progress in the meeting. You must prepare the meeting agenda items and forward them to your advisor before the meeting every week for discussion.

**Week 5 - 01 Apr 2024**

**Module/Topic**

**Chapter**

**Events and Submissions/Topic**

Start thinking about how your results can be presented and analysed to make them helpful to stakeholders.  
Discussion and support on how to prepare and present the Assessment 1 report.

Week 5 Lecture materials.

**Activity:**

Meet with your project supervisor weekly and share your progress in the meeting. You must prepare the meeting agenda items and forward them to your advisor before the meeting every week for discussion.

**Vacation Week - 08 Apr 2024**

**Module/Topic**

**Chapter**

**Events and Submissions/Topic**

No teaching material will be delivered during the vacation week.

**Week 6 - 15 Apr 2024**

**Module/Topic**

**Chapter**

**Events and Submissions/Topic**

Report: Prepare preliminary results document  
Show a draft report to your project advisor for comments.

Week 6 Lecture materials.

**Activity:**

Meet with your project supervisor weekly and share your progress in the meeting. You must prepare the meeting agenda items and forward them to your advisor before the meeting every week for discussion.

**Week 7 - 22 Apr 2024**

**Module/Topic**

**Chapter**

**Events and Submissions/Topic**

Report: Work on Results and discussion.

Week 7 Lecture materials.

**Activity:**

Meet with your project supervisor weekly and share your progress in the meeting. You must prepare the meeting agenda items and forward them to your advisor before the meeting every week for discussion.

**Preliminary Results** Due: Week 7 Friday (26 Apr 2024) 11:59 pm AEST

**Week 8 - 29 Apr 2024**

**Module/Topic**

**Chapter**

**Events and Submissions/Topic**

Prepare for the final project presentation. You should present to your supervisor during this week's meeting and seek their advice and guidance to improve.

Week 8 Lecture materials.

**Activity:**

Meet with your project supervisor weekly and share your progress in the meeting. You must prepare the meeting agenda items and forward them to your advisor before the meeting every week for discussion.

**Week 9 - 06 May 2024**

**Module/Topic**

**Chapter**

**Events and Submissions/Topic**

Work on your thesis and presentation slides.

Week 9 Lecture materials.

**Activity:**

Meet with your project supervisor weekly and share your progress in the meeting. You must prepare the meeting agenda items and forward them to your advisor before the meeting every week for discussion.

**Week 10 - 13 May 2024**

**Module/Topic**

**Chapter**

**Events and Submissions/Topic**

Work on your thesis and presentation slides.

Week 10 Lecture materials.

**Activity:**

Meet with your project supervisor weekly and share your progress in the meeting. You must prepare the meeting agenda items and forward them to your advisor before the meeting every week for discussion.

**Week 11 - 20 May 2024**

**Module/Topic**

**Chapter**

**Events and Submissions/Topic**

Work on your thesis and presentation slides.

Week 11 Lecture materials.

**Activity:**

Meet with your project supervisor weekly and share your progress in the meeting. You must prepare the meeting agenda items and forward them to your advisor before the meeting every week for discussion. Final Project Presentation on Week 11 Friday.

**Week 12 - 27 May 2024**

**Module/Topic**

**Chapter**

**Events and Submissions/Topic**

Prepare your final thesis by addressing feedback received during/after the presentation.

Week 12 Lecture materials.

**Activity:**

Meet with your project supervisor weekly and share your progress in the meeting. You must prepare the meeting agenda items and forward them to your advisor before the meeting every week for discussion. Request your supervisor to update your final meeting attendance record in the online sheet before week 12 Friday.

**Presentation** Due: Week 12 Friday (31 May 2024) 11:59 pm AEST

## Assessment Tasks

### 1 Preliminary Results

**Assessment Type**

Report



### Task Description

Prepare a document with your preliminary project results and discussion. Even though the result section carries higher marks, the document should include the following:

- Title page
- Abstract
- Keywords
- Introduction and Background (Revised)
- Objective/s of Research (Revised)
- Literature Review (Revised)
- Methodology (Revised)
- Results and Discussion
- Conclusion and Future Works
- List of References
- Appendix (if applicable)
- Responses to oral and written feedback, comments and advice given by reviewers in planning the term and by your advisor during this term.

### Information:

The students **MUST** submit all required assessments by their due dates, as no late submission will be accepted (this is professional practice). If an extension is needed, please ensure the extension request reaches the Unit Coordinator **AT LEAST 72** hours before the deadline unless specified otherwise in the assessment tasks. Application for an extension after the due date may not be acceptable.

According to the **Assessment Policy, Section 5.16**, the acceptable reasons for extension are disability, medical or health-related condition, hardship (serious accident), compassionate circumstances (death of a family member) etc., with providing evidence.

**Late Submission Penalty:** A late submission penalty of **5% per day** of the total available marks for the assessment will be deducted for each whole, or part calendar day the task is overdue will be applied in this unit, according to the University **Assessment Policy (Section 5.42)**. The penalty must be a **NEGATIVE** score that will be deducted from the overall mark and calculated based on late submission status.

### Assessment Due Date

Week 7 Friday (26 Apr 2024) 11:59 pm AEST

Submission via Moodle site.

### Return Date to Students

Week 9 Friday (10 May 2024)

It is expected that the assessment item will be returned in 2 weeks after the submission.

### Weighting

20%

### Assessment Criteria

The extent to which:

- feedback, advice and comments are responded.
- project background and context are used to justify the project.
- literature is used to support the project.
- objectives are clearly outlined.
- the appropriate methodology is used.
- preliminary results are correct and adequately presented.

*This report focuses on preliminary results, so the results section carries higher marks. Detailed assessment criteria will be available on the course website.*

**Detailed Assessment Criteria will be available on the Moodle site.**

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### Referencing Style

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

### Submission

Online

### Submission Instructions

pdf file

### Learning Outcomes Assessed

- Implement the project plan prepared in the planning unit with consultation and guidance from your project advisers and stakeholders
- Communicate preliminary results to stakeholders through interim and regular progress reports to solicit timely and constructive feedback
- Critically reflect on self-performance and develop a plan for lifelong and professional learning.

### Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management

## 2 Presentation

### Assessment Type

Presentation

### Task Description

Students are required to do a 10 to 12 minutes oral presentation on their project findings (i.e. results and discussion) using PowerPoint (PPT) slides. The presentation session with a specific schedule will be organised face-to-face or online (must video turn-on).

Prepare PPT slides must be submitted **at least 24 hours** before the presentation. During the presentation, every student will get an equal opportunity to present for **10 to 12 mins**, followed by **6 to 7 mins** for the **Q&A session**. Please note that presentation will not be rescheduled, and an extension request is unacceptable for this assessment item.

### Assessment Due Date

Week 12 Friday (31 May 2024) 11:59 pm AEST

Exact schedule of presentation will be available on the course website.

### Return Date to Students

Review/Exam Week Friday (7 June 2024)

It is expected that the assessment item will be returned in one/two weeks after the due date. Some feedback will be provided immediately after the presentation. Written feedback may or may not be given.

### Weighting

20%

### Minimum mark or grade

50%

### Assessment Criteria

This assessment will be evaluated based on the following criteria

- Accuracy and clarity of presentation slides
- Technical knowledge
- Oral communication
- Answer to the questions
- The overall quality of the presentation

**Detailed assessment criteria will be available on the course website.**

### Referencing Style

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

### Submission

Online

### Submission Instructions

Bring your presentation slides and deliver the presentation at your scheduled time.

### Learning Outcomes Assessed

- Think critically, demonstrate sound analysis, and make rational, justifiable decisions in order to find the optimal, sustainable solution
- Demonstrate leadership by contributing to the body of knowledge related to the discipline area and participating in professional networks
- Communicate findings using written and oral methods to inform both internal and external workplace practising

professionals

### Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Ethical and Professional Responsibility
- Leadership

## 3 Final Thesis

### Assessment Type

Portfolio

### Task Description

**Detailed Assessment Criteria will be available on the course website.**

Submit the final thesis. The document should have the following sections:

- Title page
- Abstract
- Keywords
- Introduction and Background
- Aim and Objective/s of Research
- Literature Review
- Methodology
- Results and Discussion
- Conclusion
- References
- Appendix (if applicable)

### Information:

The students **MUST** submit all required assessments by their due dates, as no late submission will be accepted (this is professional practice). If an extension is needed, please ensure the extension request reaches the Unit Coordinator **AT LEAST 72** hours before the deadline unless specified otherwise in the assessment tasks. Application for an extension after the due date may not be acceptable.

According to the **Assessment Policy, Section 5.16**, the acceptable reasons for extension are disability, medical or health-related condition, hardship (serious accident), compassionate circumstances (death of a family member) etc., with providing evidence.

**Late Submission Penalty:** A late submission penalty of **5% per day** of the total available marks for the assessment will be deducted for each whole or part calendar day the task is overdue will be applied in this unit, according to the University **Assessment Policy (Section 5.42)**. The penalty must be a **NEGATIVE** score deducted from the overall mark and calculated based on late submission status.

**The KPI delivery record:** The evidence of overall attendance, including progress meeting with the supervisor and timely submission of all assessment items, should be submitted in the final report.

### Assessment Due Date

Review/Exam Week Friday (7 June 2024) 11:00 pm AEST

Submission via Moodle site.

### Return Date to Students

Exam Week Friday (14 June 2024)

After the certification of grades.

### Weighting

60%

### Minimum mark or grade

50%

### Assessment Criteria

The thesis will be evaluated based on the overall quality of the project, analysis of results and written report. Detailed assessment criteria will be available on the unit website.

**Detailed Assessment Criteria will be available on the course website.**

### Referencing Style

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

**Submission**

Online

**Learning Outcomes Assessed**

- Implement the project plan prepared in the planning unit with consultation and guidance from your project advisers and stakeholders
- Think critically, demonstrate sound analysis, and make rational, justifiable decisions in order to find the optimal, sustainable solution
- Demonstrate leadership by contributing to the body of knowledge related to the discipline area and participating in professional networks
- Communicate preliminary results to stakeholders through interim and regular progress reports to solicit timely and constructive feedback
- Communicate findings using written and oral methods to inform both internal and external workplace practising professionals

**Graduate Attributes**

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Ethical and Professional Responsibility
- Leadership

## 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