# ENAG12002 *Engineering Associate Project*
## Term 1 - 2025

Profile information current as at 26/03/2025 05:10 am



## General Information

### Overview
In this unit, you will apply the knowledge and skills you have developed throughout your Associate Degree to a capstone project. You will manage the project, identify and apply required technical knowledge, develop a project problem definition from a loosely formed client brief and produce detailed drawings and documentation. You will also review the conduct and management of engineering enterprises based on personal work experience and reflect on the engineering design process and project management and their role in it. You will operate in an ethical manner, communicate effectively, and provide evidence of professional conduct and a commitment to lifelong learning. Note: You may make this project part of your compulsory minimum of six weeks of work experience required before graduation.

### Details
Career Level: *Undergraduate*
Unit Level: *Level 2*
Credit Points: *12*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.25*

### Pre-requisites or Co-requisites
Students must have completed 72 credit points.
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 - 2025

- 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 12-credit Undergraduate 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. **Written Assessment**
Weighting: 10%
2. **Written Assessment**
Weighting: 20%
3. **Portfolio**
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 In class discussion

**Feedback**
Individual discussions on the potential project ideas at the start of the term helped develop the project.

**Recommendation**
This practice should be continued.

#### Feedback from In class discussion

**Feedback**
More resources for literature review and methodology development will be helpful.

**Recommendation**
The next delivery should provide more resources for the literature review and methodology development.

#### Feedback from In class discussion

**Feedback**
Assessments 1 and 2 helped for the gradual development of the project report.

**Recommendation**
This practice should be continued.

## 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 Engineering Associates 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 and identify the tasks required for the implementation phases, including the application of appropriate technical capability developed in preceding units of study
4. Implement the project plan prepared in the planning phase in consultation with and guidance from your project adviser(s)
5. Prepare professional project documents that convey the processes and outcomes of the project
6. Communicate your project outcomes to project adviser(s), other stakeholders, and the wider community.

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

**Intermediate**
**1.2 Procedural-level understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the practice area. (LO: 3I 5I)**
**1.4 Discernment of engineering developments within the practice area. (LO: 2I 3I 4I 5I)**
**Advanced**
**1.1 Descriptive, formula-based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the practice area. (LO: 1A 3A)**
**1.3 In-depth practical knowledge and skills within specialist sub-disciplines of the practice area. (LO: 2A 3A 4A 5A)**
**1.5 Knowledge of engineering design practice and contextual factors impacting the practice area. (LO: 2A 3I 4I)**
**1.6 Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the area of practice. (LO: 2A 3I 4I 5I)**
**2.1 Application of established technical and practical methods to the solution of well-defined engineering problems. (LO: 1A 3A 4A)**
**2.2 Application of technical and practical techniques, tools and resources to well-defined engineering problems. (LO: 1A 3I 4A)**
**2.3 Application of systematic design processes to well-defined engineering problems. (LO: 1A 4I)**
**2.4 Application of systematic project management processes. (LO: 1A 2A 3A 4A)**
**3.1 Ethical conduct and professional accountability. (LO: 1A)**
**3.2 Effective oral and written communication in professional and lay domains. (LO: 1A 2A 5A 6A)**
**3.3 Creative, innovative and pro-active demeanour. (LO: 1A)**
**3.4 Professional use and management of information. (LO: 1A 4A)**
**3.5 Orderly management of self, and professional conduct. (LO: 1A 4A)**
**3.6 Effective team membership and team leadership. (LO: 1A 2I 4I)**

***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

— 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 | 6 |
| 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.**

**Additional Textbook Information**
Dowling, D., Hadgraft, R., Carew, A., et al., (2010) Engineering Your Future - An Australasian Guide, 3rd Ed., John Wiley
Neuman, W. L. (2011) Social Research Methods: Qualitative and Quantitative Approaches, 7th Ed., Pearson Higher Education

### 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

**Xiaohan Yang** Unit Coordinator
x.yang@cqu.edu.au

## Schedule

**Week 1 - 10 Mar 2025**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Week 1 Introduction | | 1. Introduction of the unit structure and main activities<br>2. Introduction of the assessment items |

**Week 2 - 17 Mar 2025**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Week 2 Project Proposal | | 1. Engineering Associate Project flow diagram<br>2. How to structure research proposal<br>3. Assignment 1: research proposal |

**Week 3 - 24 Mar 2025**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Week 3 Project Gantt Chart | | 1. Project report structure and template<br>2. Database for literature review and reference style<br><br>**Project Proposal** Due: Week 3 Friday (28 Mar 2025) 11:59 pm AEST |

**Week 4 - 31 Mar 2025**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Week 4 Literature Review | | 1. How to conduct a literature review<br>2. CQU guide for literature review<br>3. Proper use of AI chat-box for proof-reading |

**Week 5 - 07 Apr 2025**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Week 5 Project Methodology | | 1. Research approach and methodology<br>2. Risk assessment template<br>3. Assignment 2: Literature Review and Project Methodology |

**Vacation Week - 14 Apr 2025**

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

**Week 6 - 21 Apr 2025**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Week 6 Project Implementation | | 1. Project implementation process<br>2. Review of literature review and research methodology<br><br>**Literature Review and Project Methodology** Due: Week 6 Friday (25 Apr 2025) 11:59 pm AEST |

**Week 7 - 28 Apr 2025**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Week 7 Checking Project Schedule | | 1. Project flowchart and technical framework<br>2. Project milestone and working package |

**Week 8 - 05 May 2025**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Week 8 Project Implementation | | 1. Data processing and analysis<br>2. Diagram and table generation |

**Week 9 - 12 May 2025**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Week 9 Project Finalization | | 1. Discussions and conclusions<br>2. Review of project implementation |

**Week 10 - 19 May 2025**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Week 10 Project Report | | 1. Project report template |

**Week 11 - 26 May 2025**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Week 11 Stage 1 Competencies | | 1. EA Stage 1 competency reports |

**Week 12 - 02 Jun 2025**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| Week 12 Video Presentation | | 1. Video presentation preparation<br>2. Assignment 3 - Portfolio (Project Report + Video Presentation + Reflective Report) |

**Review/Exam Week - 09 Jun 2025**

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|---|---|
| | | **Portfolio** Due: Review/Exam Week Monday (9 June 2025) 11:59 pm AEST |

**Exam Week - 16 Jun 2025**

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

## Assessment Tasks

### 1 Project Proposal

**Assessment Type**
Written Assessment

**Task Description**
Submit a research proposal based on the selected topic. This section accounts for 10% of the total mark.

**Assessment Due Date**
Week 3 Friday (28 Mar 2025) 11:59 pm AEST

**Return Date to Students**
Week 5 Monday (7 Apr 2025)

**Weighting**
10%

**Minimum mark or grade**
45%

**Assessment Criteria**
Template and marking criteria will be provided to the student in Moodle.

**Referencing Style**

- Harvard (author-date)

**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 Project Methodology

**Assessment Type**
Written Assessment

**Task Description**
Conduct a comprehensive literature review for the selected topic. Draft the literature review and methodology section for the project.

**Assessment Due Date**
Week 6 Friday (25 Apr 2025) 11:59 pm AEST

**Return Date to Students**
Week 8 Monday (5 May 2025)

**Weighting**
20%

**Minimum mark or grade**
50%

**Assessment Criteria**
Template and marking criteria will be provided to the student in Moodle.

**Referencing Style**

- Harvard (author-date)

**Submission**
Online

**Learning Outcomes Assessed**

- Research critical areas of your project and identify the tasks required for the implementation phases, including the application of appropriate technical capability developed in preceding units of study

## 3 Portfolio

**Assessment Type**
Portfolio

**Task Description**
Portfolio with following components:
Project Report (50%)
Video Presentation (10%)
Reflective paper on your attainment Engineers Australia Stage 1 Competencies for Engineering Associate (10%)

**Assessment Due Date**
Review/Exam Week Monday (9 June 2025) 11:59 pm AEST

**Return Date to Students**
Exam Week Wednesday (18 June 2025)

**Weighting**
70%

**Minimum mark or grade**
50%

**Assessment Criteria**
1. Final Report of the project: Including the proposal, literature review, project methodology, and implementation report
2. Reflective report: The report must describe how you have attained Engineers Australia Stage 1 Competencies for Engineering Associate.
3. Video Presentation: Prepare a 5-7 minutes video on your project with the following content. The video file needs to be uploaded to OneDrive and share the link in a document.
Background of the project and its significance
Project information with appropriate illustration
Project methodology
Project results and outcomes
Conclusion

**Referencing Style**

- Harvard (author-date)

**Submission**
Online

**Learning Outcomes Assessed**

- Apply and reflect on Engineers Australia's Stage One Competencies for Engineering Associates 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 and identify the tasks required for the implementation phases, including the application of appropriate technical capability developed in preceding units of study
- Implement the project plan prepared in the planning phase in consultation with and guidance from your project adviser(s)
- Prepare professional project documents that convey the processes and outcomes of the project
- Communicate your project outcomes to project adviser(s), other stakeholders, and the wider community.

## 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