ENAG11008 *Professional and Sustainable Engineering Practice*
Term 2 - 2022

Profile information current as at 14/12/2025 08:14 pm

All details in this unit profile for ENAG11008 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 explore the role of engineers in the context of sustainable engineering design and practice. In a team, you will be required to research issues, evaluate the quality of the information obtained and prepare reports on an issue involving sustainable development and practice. You will develop communication, problem-solving and critical thinking skills, which will assist you to function effectively in the engineering workplace and as collaborative learners. In this unit, you must complete compulsory practical activities. Refer to the Engineering Undergraduate Course Moodle site for proposed dates.

Details

Career Level: *Undergraduate*
Unit Level: *Level 1*
Credit Points: *6*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites

There are no requisites for this unit.
Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the Assessment Policy and Procedure (Higher Education Coursework).

Offerings For Term 2 - 2022

- Mixed Mode

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: 30%
2. **Written Assessment**
Weighting: 40%
3. **Online Quiz(zes)**
Weighting: 5%
4. **Presentation and Written Assessment**
Weighting: 20%
5. **Online Quiz(zes)**
Weighting: 5%

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 feedback

Feedback
The residential school needed improved organisation as multiple subjects were covered over the period.

Recommendation
The residential school now only caters for ENAG11008 and is focused on providing students with a thorough introduction to the unit as well as additional skills to assist with the remainder of their course.

Feedback from Teaching team feedback

Feedback
There were two SPA requirements focusing on teamwork for assignment 4. As the time spent as a team was limited, this seemed excessive.

Recommendation
One SPA to be scheduled to evaluate team performance at the end of assignment 4.

Unit Learning Outcomes

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

1. Develop an understanding of the challenges and opportunities with sustainable development and assess current applications in engineering practice
2. Investigate and discuss the interdependence of sustainable development and ethics in professional engineering practice
3. Identify appropriate sources of information, research an issue and evaluate the quality of the information obtained
4. Prepare technical reports and presentations to communicate the results and limitations of investigations
5. Demonstrate effective teamwork and communication skills by supporting collaborative problem solving and learning
6. Demonstrate effective time, team and project management skills.

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::
Introductory
1.4 Discernment of engineering developments within the practice area. (LO: 1N 2N 3N)
1.6 Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the area of practice. (LO: 1I 3A 4A 5A)
2.1 Application of established technical and practical methods to the solution of well-defined engineering problems. (LO: 4N)
2.4 Application of systematic project management processes. (LO: 1N 2N 4N)
3.1 Ethical conduct and professional accountability. (LO: 2N 4N)
3.2 Effective oral and written communication in professional and lay domains. (LO: 3N 4N 5N)
3.3 Creative, innovative and pro-active demeanour. (LO: 4N)
3.4 Professional use and management of information. (LO: 1N 2N 3N 4N)
3.5 Orderly management of self, and professional conduct. (LO: 5N 6N)
3.6 Effective team membership and team leadership. (LO: 4N 5N 6N)

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

— 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 - Written Assessment - 30%		●				
2 - Written Assessment - 30%	●	●	●	●		
3 - Presentation and Written Assessment - 35%	●		●	●	●	●
4 - Peer assessment - 5%					●	●

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	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
ENAG11008

Prescribed

Engineering Your Future: An Australasian Guide
Edition: 4th (2019)
Authors: David Dowling, Roger Hadgraft, Anna Carew, Tim McCarthy, Doug Hargreaves, Caroline Baillie, Sally Male
Wiley
Milton , QLD , Australia
ISBN: 978-0-730-36919-6
Binding: eBook

View textbooks at the CQUniversity Bookshop

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

Claire Skipper Unit Coordinator
c.skipper@cqu.edu.au

Schedule

Week 1 - 11 Jul 2022

Module/Topic	Chapter	Events and Submissions/Topic
• Introduction to the unit. • Teaching Team Contacts and how to communicate with lecturers and fellow classmates. • Overview of assessments and submission dates. • Learning Resources - information on weekly Zoom tutorial and residential school timetable. Information on unit textbook and Moodle resources. • Introduction to the Academic Learning Centre.		Commence Assessment 1 (Reflective paper-Who is an Engineering Associate)

Week 2 - 18 Jul 2022

Module/Topic	Chapter	Events and Submissions/Topic

• What is engineering and what is the role of an engineer and engineering associate.
• Introduction to various engineering disciplines.
• Discussion of assessment 1. Introduction to reflective writing and why mastering the skill of reflection is important for engineers.

Text book: Chapter 1 – What is engineering (The Engineers Australia Competency framework section 1.3)

Week 3 - 25 Jul 2022

Module/Topic	Chapter	Events and Submissions/Topic
• Introduce Engineers Australia. • Introduce and review the stage 1 competencies for an Engineering Associate.		Residential school to be held as an online session on Saturday 30th July between 8am and 1pm.

Week 4 - 01 Aug 2022

Module/Topic	Chapter	Events and Submissions/Topic
• What is sustainable engineering and why is it important. • Frameworks for sustainable development.	Textbook: Chapter 3 - Sustainable Engineering	Commence Assessment 2(Sustainable Development Critique **Assessment 1- Reflective Paper: Who is an Engineering Associate** Due: Week 4 Tuesday (2 Aug 2022) 11:45 pm AEST

Week 5 - 08 Aug 2022

Module/Topic	Chapter	Events and Submissions/Topic
How to apply various methods of assessment to determine the sustainability of a solution. Improving information literacy and identifying reputable sources of information.	Textbook: Chapter 9 – Understanding the Problem	

Vacation Week - 15 Aug 2022

Module/Topic	Chapter	Events and Submissions/Topic
Use this time catch up or look ahead at topics.		

Week 6 - 22 Aug 2022

Module/Topic	Chapter	Events and Submissions/Topic
• Review various examples of engineering projects and processes.		

Week 7 - 29 Aug 2022

Module/Topic	Chapter	Events and Submissions/Topic
• Understanding the engineering method.	Textbook: Chapter 2 – The Engineering Method	Commence Assessment 3 (Feasibility Report) **Assessment 2 - Sustainable Development Critique** Due: Week 7 Tuesday (30 Aug 2022) 11:45 pm AEST

Week 8 - 05 Sep 2022

Module/Topic	Chapter	Events and Submissions/Topic
• Effective communication for reports and presentations. • Writing and structuring a feasibility report.	Textbook: Chapter 7 and 8 – Understanding communication and communication skills	

Week 9 - 12 Sep 2022

Module/Topic	Chapter	Events and Submissions/Topic
• Introducing the Engineers Australia Code of Ethics. • Understanding the professional responsibility of engineers and working as a team	Textbook: Chapter 4 – Professional Responsibility and Ethics Textbook: Chapter 6 - Collaborating with others	**Assessment 3- Self and Peer Asssessment** Due: Week 9 Tuesday (13 Sept 2022) 11:45 pm AEST

Week 10 - 19 Sep 2022

Module/Topic	Chapter	Events and Submissions/Topic
• What is a risk assessment	Textbook: Chapter 13.3 - Develop a risk-management plan for a project	

Week 11 - 26 Sep 2022

Module/Topic	Chapter	Events and Submissions/Topic
• Review of unit. • Examples of feasibility studies		

Week 12 - 03 Oct 2022

Module/Topic	Chapter	Events and Submissions/Topic
• Revision and where to from here - your onward learning journey		Commence Assessment 4 - SPA

Review/Exam Week - 10 Oct 2022

Module/Topic	Chapter	Events and Submissions/Topic
		Assessment 4- Team Feasibility Report Due: Review/Exam Week Tuesday (11 Oct 2022) 11:45 pm AEST **Assessment 5 - Self and Peer Assessment** Due: Review/Exam Week Tuesday (11 Oct 2022) 11:45 pm AEST

Exam Week - 17 Oct 2022

Module/Topic	Chapter	Events and Submissions/Topic

Term Specific Information

A copy of the textbook can be downloaded via this link:
https://cqu-primo.hosted.exlibrisgroup.com/permalink/f/12qhpae/61CQU_Alma51151580420003441

Assessment Tasks

1 Assessment 1- Reflective Paper: Who is an Engineering Associate

Assessment Type
Written Assessment

Task Description
Prepare a typed Reflective Paper by studying the resources provided for this assignment on Moodle. You will need to become familiar with the Reflective Writing Guide to ensure your paper articulates reflective thoughts rather than just restating the resources provided. There is not a strict word limit, either minimum or maximum, but you should be able to prepare approximately two to three pages for this assignment.

Assessment Due Date
Week 4 Tuesday (2 Aug 2022) 11:45 pm AEST

Return Date to Students
Week 6 Tuesday (23 Aug 2022)

Weighting
30%

Minimum mark or grade
25%

Assessment Criteria
A Marking Rubric is provided on Moodle that includes indicators of attainment at the 'Sound', 'Good' and 'Excellent' level for each component of the assignment

Referencing Style

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

Submission
Online

Submission Instructions
Submit as a single PDF via Moodle

Learning Outcomes Assessed

- Develop an understanding of the challenges and opportunities with sustainable development and assess current applications in engineering practice
- Investigate and discuss the interdependence of sustainable development and ethics in professional engineering practice
- Identify appropriate sources of information, research an issue and evaluate the quality of the information obtained
- Prepare technical reports and presentations to communicate the results and limitations of investigations
- Demonstrate effective teamwork and communication skills by supporting collaborative problem solving and learning

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Cross Cultural Competence
- Ethical practice

2 Assessment 2 - Sustainable Development Critique

Assessment Type
Written Assessment

Task Description
Prepare a typed critique on the topic of sustainable development. For the written report submission, you must define what sustainable development is, identify a suitable engineering project or process and critique it. You will identify opportunities and barriers for the sustainability of this practice. You will need to correctly reference your information sources and ensure that your information is reputable. There is not a strict word limit, either minimum or maximum, but you should prepare approximately three to four pages for this assignment.

Assessment Due Date
Week 7 Tuesday (30 Aug 2022) 11:45 pm AEST

Return Date to Students
Week 9 Tuesday (13 Sept 2022)

Weighting
40%

Minimum mark or grade
25%

Assessment Criteria
A Marking Rubric is provided on Moodle that includes indicators of attainment at the 'Sound', 'Good' and 'Excellent' level for each component of the assignment.

Referencing Style

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

Submission
Online

Submission Instructions
Submit as a single PDF to Moodle

Learning Outcomes Assessed

- Develop an understanding of the challenges and opportunities with sustainable development and assess current applications in engineering practice
- Investigate and discuss the interdependence of sustainable development and ethics in professional engineering practice
- Identify appropriate sources of information, research an issue and evaluate the quality of the information obtained
- Prepare technical reports and presentations to communicate the results and limitations of investigations
- Demonstrate effective teamwork and communication skills by supporting collaborative problem solving and learning
- Demonstrate effective time, team and project management skills

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Team Work
- Information Technology Competence
- Cross Cultural Competence
- Ethical practice

3 Assessment 3- Self and Peer Asssessment

Assessment Type
Online Quiz(zes)

Task Description
Complete a self and peer assessment quiz by answering 9 questions about your own and your team mates performance.

Number of Quizzes

Frequency of Quizzes

Assessment Due Date
Week 9 Tuesday (13 Sept 2022) 11:45 pm AEST

Return Date to Students
Week 9 Tuesday (13 Sept 2022)

A summary will be automatically generated.

Weighting
5%

Assessment Criteria
No Assessment Criteria

Referencing Style

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

Submission
Online

Submission Instructions
Complete an online quiz provided to you via email.

Learning Outcomes Assessed

- Demonstrate effective teamwork and communication skills by supporting collaborative problem solving and

learning

Graduate Attributes

- Communication
- Team Work
- Ethical practice

4 Assessment 4- Team Feasibility Report

Assessment Type
Presentation and Written Assessment

Task Description
In your team, prepare a typed Feasibility Report for promoting sustainable development. Using the individual critiques of sustainable development completed by your team members in Assignment 2, decide on an engineering project or process to investigate further. You should explore options to increase the sustainability of this practice by using the 'engineering method' to problem solve any opportunities or barriers to sustainable development. You will need to become familiar with the report template provided on Moodle. There is not a strict word limit, either minimum or maximum, but the main body of your report should be approximately five to six pages to sufficiently examine key aspects of this practice.

Assessment Due Date
Review/Exam Week Tuesday (11 Oct 2022) 11:45 pm AEST

Return Date to Students
Exam Week Tuesday (18 Oct 2022)

Weighting
20%

Minimum mark or grade
25%

Assessment Criteria
A Marking Rubric is provided on Moodle that includes indicators of attainment at the 'Sound', 'Good' and 'Excellent' level for each component of the assignment.

Referencing Style

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

Submission
Online Group

Submission Instructions
One team member to submit a single PDF to Moodle

Learning Outcomes Assessed

- Develop an understanding of the challenges and opportunities with sustainable development and assess current applications in engineering practice
- Investigate and discuss the interdependence of sustainable development and ethics in professional engineering practice
- Identify appropriate sources of information, research an issue and evaluate the quality of the information obtained
- Prepare technical reports and presentations to communicate the results and limitations of investigations
- Demonstrate effective teamwork and communication skills by supporting collaborative problem solving and learning
- Demonstrate effective time, team and project management skills

Graduate Attributes

- Communication
- Critical Thinking
- Team Work
- Cross Cultural Competence
- Ethical practice

5 Assessment 5 - Self and Peer Assessment

Assessment Type
Online Quiz(zes)

Task Description
Complete a self and peer assessment quiz by answering 9 questions about your own and your team mates performance.

Number of Quizzes

Frequency of Quizzes

Assessment Due Date
Review/Exam Week Tuesday (11 Oct 2022) 11:45 pm AEST

Return Date to Students
Review/Exam Week Tuesday (11 Oct 2022)

You will recieve an automatically generated summary.

Weighting
5%

Assessment Criteria
No Assessment Criteria

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Complete an online quiz provided to you via email.

Learning Outcomes Assessed

- Demonstrate effective teamwork and communication skills by supporting collaborative problem solving and learning

Graduate Attributes

- Communication
- Team Work
- Ethical practice

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