ENAG11008 *Professional and Sustainable Engineering Practice*
Term 1 - 2020

Profile information current as at 14/12/2025 06:21 pm

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. You will be required to attend a compulsory residential school early in Term 1 to facilitate attaining the unit learning outcomes.

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 1 - 2020

- 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 Moodle unit evaluation

Feedback
The group activities help to build collaborative skills and offers a different learning experience as everyone has a different perspective.

Recommendation
Glad to note that the assessment format was helpful to students' learning.

Feedback from Moodle unit evaluation

Feedback
More exemplars on the assessment pieces.

Recommendation
Noted. Examples will be discussed during Zoom discussions.

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 to the Engineers Australia Stage 1 competencies.

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 - 40%	•	•	•	•	•	•
3 - Online Quiz(zes) - 5%					•	
4 - Presentation and Written Assessment - 20%	•	•	•	•	•	•

Assessment Tasks	Learning Outcomes					
	1	2	3	4	5	6
5 - Online Quiz(zes) - 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						

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
1 - Written Assessment - 30%	•	•	•	•		•	•	•		
2 - Written Assessment - 40%	•	•	•	•	•	•	•	•		
3 - Online Quiz(zes) - 5%	•				•			•		
4 - Presentation and Written Assessment - 20%	•		•		•		•	•		
5 - Online Quiz(zes) - 5%	•				•			•		

Textbooks and Resources

Textbooks

ENAG11008

Prescribed

Engineering for your future
4th edition (2019)
Authors: David Dowling, Roger Hadgraft, Anna Carew, Tim Mccarthy, Doug Hargreaves, Caroline Baillie
John Wiley & Sons Australia Ltd
Milton , QLD , Australia
ISBN: 9780730369165
Binding: Hardcover

Additional Textbook Information
Hardcover book includes the "E-text"code as well. Copies can be purchased from the CQUni Bookshop here: http://bookshop.cqu.edu.au (search on the Unit code)
Note: Students have the option to buy just the E-text. E-text price is less than the harcover book. E-text ISBN: 9780730369196

View textbooks at the CQUniversity Bookshop

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Microsoft Power Point
- Microsoft Word

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 - 09 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Unit overview, assessments and communication strategy		Commence Assessment 1(Reflective paper-Who is an Engineering Associate)

Week 2 - 16 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Engineers Australia Stage 1 Competencies for Engineering Associates	**Textbook:** Chapter 1 – What is engineering (The Engineers Australia Competency framework section 1.3)	

Week 3 - 23 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Reflective writing genre		
Week 4 - 30 Mar 2020		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Frameworks for sustainable development **Compulsory residential school (03-04 April 2020)**	**Textbook:** Chapter 3 – Sustainable Engineering **Compulsory residential school (03 - 04 April 2020)**	Commence Assessment 2(Sustainable Development Critique) **Compulsory residential school (03 - 04 April 2020)**
Week 5 - 06 Apr 2020		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
The United Nations Sustainable Development Goals Information literacy	**Textbook:** Chapter 9 – Understanding the Problem	**Assessment 1- Reflective Paper: Who is an Engineering Associate** Due: Week 5 Tuesday (7 Apr 2020) 11:45 pm AEST
Vacation Week - 13 Apr 2020		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
BREAK WEEK	**BREAK WEEK**	**BREAK WEEK**
Week 6 - 20 Apr 2020		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Examples from industry of sustainable development 1		
Week 7 - 27 Apr 2020		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Examples from industry of sustainable development 2		Commence Assessment 3 (Self and Peer evaluation-A)
Week 8 - 04 May 2020		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
		Commence Assessment 4(Feasibility Report)
Ethics and teamwork - towards fair Self and Peer-Assessments	**Textbook:** Chapter 4 – Professional Responsibility and Ethics	**Assessment 2 - Sustainable Development Critique** Due: Week 8 Tuesday (5 May 2020) 11:45 pm AEST **Assessment 3 - Self and Peer Evaluation-A** Due: Week 8 Tuesday (5 May 2020) 11:45 pm AEST
Week 9 - 11 May 2020		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Unit review & Understanding the Engineering Method	**Textbook:** Chapter 2 – The Engineering Method	
Week 10 - 18 May 2020		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Effective communications for reports and presentations	**Textbook:** Chapter 7 and 8 – Understanding communication and communication skills	
Week 11 - 25 May 2020		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Feasibility report writing		Commence Assessment 5 (Self and Peer evaluation-B)
Week 12 - 01 Jun 2020		
Module/Topic	**Chapter**	**Events and Submissions/Topic**

Revision and where to from here - your onward learning journey		

Review/Exam Week - 08 Jun 2020

Module/Topic	Chapter	Events and Submissions/Topic
		Assessment 4- Team Feasibility Report Due: Review/Exam Week Tuesday (9 June 2020) 11:45 pm AEST **Assessment 5- Self and Peer Evaluation -B** Due: Review/Exam Week Tuesday (9 June 2020) 11:45 pm AEST

Exam Week - 15 Jun 2020

Module/Topic	Chapter	Events and Submissions/Topic

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 5 Tuesday (7 Apr 2020) 11:45 pm AEST

Return Date to Students
Week 7 Tuesday (28 Apr 2020)

Weighting
30%

Minimum mark or grade
15

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
Please submit through Moodle as a single pdf file. Use any templates provided.

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. During residential school, you will get the opportunity for detailed discussions in groups with staff and peers on suitable topics and also do a presentation on the selected topic. 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 8 Tuesday (5 May 2020) 11:45 pm AEST

Return Date to Students
Week 10 Tuesday (19 May 2020)

Weighting
40%

Minimum mark or grade
20

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
Please submit through Moodle as a single pdf file.

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 Evaluation-A

Assessment Type
Online Quiz(zes)

Task Description
You must complete a Self and Peer-Evaluation Questionnaire of your teammates as provided on Moodle. Peer evaluation is anonymous and feedback is automatically provided through Moodle.

Number of Quizzes
1

Frequency of Quizzes

Assessment Due Date
Week 8 Tuesday (5 May 2020) 11:45 pm AEST

Return Date to Students
Week 9 Tuesday (12 May 2020)

Feedback links are provided on Moodle shortly after the questionnaire closes

Weighting
5%

Minimum mark or grade
1

Assessment Criteria
Peer evaluation scores are determined using the average of your performance ratings from teammates on key aspects of teamwork. Refer to Moodle for further information.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Submit through Moodle by using the Self and Peer-Assessment Questionnaire link

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 (9 June 2020) 11:45 pm AEST

Return Date to Students

23 June 2020 via Moodle

Weighting
20%

Minimum mark or grade
10

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
Please submit through Moodle as a single pdf file. Only one person from the team must submit.

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 Evaluation -B

Assessment Type
Online Quiz(zes)

Task Description
You must complete a Self and Peer-Evaluation Questionnaire of your teammates as provided on Moodle. Peer evaluation is anonymous and feedback is automatically provided through Moodle.

Number of Quizzes
1

Frequency of Quizzes

Assessment Due Date
Review/Exam Week Tuesday (9 June 2020) 11:45 pm AEST

Return Date to Students

23 June 2020 via Moodle

Weighting
5%

Minimum mark or grade
1

Assessment Criteria
Peer evaluation scores are determined using the average of your performance ratings from teammates on key aspects of teamwork. Refer to Moodle for further information.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Submit through Moodle by using the Self and Peer-Assessment Questionnaire link

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