



# ENEG13001 Humanitarian Engineering Project

## Term 3 - 2019

Profile information current as at 02/05/2024 01:22 pm

All details in this unit profile for ENEG13001 have been officially approved by CQU University 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 must complete a two-week mobility trip as a compulsory practicum and work on an international humanitarian engineering project for a developing or marginalised community. Places are limited to self-paying participants and recipients of a New Colombo Plan Mobility Scholarship. Through collaborative discussions with your host community, you will critically analyse the development context and identify wants, needs, strengths and opportunities for social innovation. You will make recommendations by applying principles of sustainable development, human-centred design and systems engineering. You will create a project implementation plan, generate rapid prototypes and present your design to community members and assess its long-term viability. You will demonstrate ethical conduct and professional accountability, team membership and team leadership, knowledge management and a creative, innovative and proactive demeanour. Additional financial assistance for mobility trips is available by application for an OS-Help loan.

### Details

Career Level: *Undergraduate*

Unit Level: *Level 3*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

### Pre-requisites or Co-requisites

At least 48 credit points successfully completed, including ENEG11007 OR ENEG11002. Head of Course permission is required before enrolling in 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 3 - 2019

- 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. **Oral Examination**

Weighting: 15%

#### 2. **Presentation**

Weighting: 15%

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

Weighting: 30%

#### 4. **Portfolio**

Weighting: 40%

### 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 Coordinator reflections

##### Feedback

Students should observe how they address UN Sustainable Development Goals (USDG) through their projects

##### Recommendation

Introduce UN Sustainable Development Goals (USDGs) and ask students to identify how they can address USDGs through their projects. Modify the portfolio assessment to include reflections on addressing USDGs.

## Unit Learning Outcomes

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

1. Establish a framework for identifying community needs and opportunities for social innovation in a developing or marginalised community
2. Clarify development contexts and opportunities for humanitarian engineering projects by engaging in collaborative discussions with community members
3. Generate design ideas, evaluate potential solutions and select a humanitarian engineering project concept
4. Design and develop rapid project prototypes to solicit community feedback
5. Create a project implementation plan including assessment of the long-term viability of the design in terms of ongoing use by the community, ongoing maintenance and end of life arrangements
6. Demonstrate cross-cultural engagement, collaboration, project management and presentation of results in both verbal and written forms.

These outcomes are well-aligned with Engineers Australia's Stage 1 Competency Standard.

## 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
1 - Oral Examination - 15%	•					
2 - Presentation - 15%	•	•	•	•	•	
3 - Written Assessment - 30%		•	•	•	•	•
4 - Portfolio - 40%				•	•	•

### 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 - Oral Examination - 15%	•	•	•	•			•	•		
2 - Presentation - 15%	•	•	•	•	•	•	•	•		
3 - Written Assessment - 30%	•	•	•	•		•	•	•		
4 - Portfolio - 40%	•	•	•		•	•	•	•		

## Textbooks and Resources

### Textbooks

**There are no required textbooks.**

#### Additional Textbook Information

No

### IT Resources

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

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Video/audio recording device (e.g. a android/iphone, tablet, Gopro or computer with a webcam)

## Referencing Style

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

## Teaching Contacts

**Aruna Jayasuriya** Unit Coordinator  
[a.jayasuriya@cqu.edu.au](mailto:a.jayasuriya@cqu.edu.au)

## Schedule

### Week 1 - 11 Nov 2019

Module/Topic	Chapter	Events and Submissions/Topic
New Colombo Plan Scholarship Objectives		

### Week 2 - 18 Nov 2019

Module/Topic	Chapter	Events and Submissions/Topic
United Nations Sustainable Development Goals		

### Week 3 - 25 Nov 2019

Module/Topic	Chapter	Events and Submissions/Topic
Engineers Without Borders Strength-Based Approach		

### Week 4 - 02 Dec 2019

Module/Topic	Chapter	Events and Submissions/Topic
Engineers Without Borders Human-Centred Design		

### Vacation Week - 09 Dec 2019

Module/Topic	Chapter	Events and Submissions/Topic
Break week		

### Week 5 - 16 Dec 2019

Module/Topic	Chapter	Events and Submissions/Topic
Social Innovation Unpacked - Project initiation and concept development		

### Week 6 - 23 Dec 2019

Module/Topic	Chapter	Events and Submissions/Topic
Social Innovation Unpacked - Project implementation		

### Week 7 - 06 Jan 2020

Module/Topic	Chapter	Events and Submissions/Topic
Social Innovation Unpacked - Project implementation		

### Week 8 - 13 Jan 2020

Module/Topic	Chapter	Events and Submissions/Topic
Social Innovation Unpacked - Project Evaluation		

Week 9 - 20 Jan 2020		
Module/Topic	Chapter	Events and Submissions/Topic
Practicum preparation		
Week 10 - 27 Jan 2020		
Module/Topic	Chapter	Events and Submissions/Topic
Practicum preparation		
Week 11 - 03 Feb 2020		
Module/Topic	Chapter	Events and Submissions/Topic
Practicum		
Week 12 - 10 Feb 2020		
Module/Topic	Chapter	Events and Submissions/Topic
Practicum		
Exam Week - 17 Feb 2020		
Module/Topic	Chapter	Events and Submissions/Topic
Portfolio preparation		

## Assessment Tasks

### 1 Pre-community-visit Viva Voce

#### Assessment Type

Oral Examination

#### Task Description

Students will be interviewed just prior to staying with their community. At this time, their knowledge of appropriate conduct will be examined through questions on safety considerations for themselves and the community; awareness of what is culturally appropriate behaviour for their community; ways to engage with their community in a friendly, respectful and productive manner; how to employ questioning techniques; and how to manage community expectations. If it is not possible to organise an interview, students will be requested to produce an audio/video recording of answers to the interview questions. It is highly recommend that students keep a audio/video diary of daily activities (summary of activities) and reflections.

#### Assessment Due Date

One week within returning back from the practicum

#### Return Date to Students

Feedback will be provided within 10 working days of the due date.

#### Weighting

15%

#### Minimum mark or grade

50%

#### Assessment Criteria

Students are assessed against marking criteria based on the key elements described in this assessment. The final criteria are provided on Moodle. Levels of achievement will be awarded from 'Improvement Needed' (0 marks) up to 'Excellent Conduct' (2 marks).

#### Referencing Style

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

#### Submission

Online

#### Learning Outcomes Assessed

- Establish a framework for identifying community needs and opportunities for social innovation in a developing or

marginalised community

### **Graduate Attributes**

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

## **2 Prototype Presentation to Community**

### **Assessment Type**

Presentation

### **Task Description**

During or just after community visits, students will be required to present their project idea as a prototype to community elders, respond to their questions, and solicit feedback on the implementation of the project. This will usually occur in a formal setting. Students must obtain evidence of their participation in the team presentation.

If a marker is not available during the presentations, students are required to keep video recording of the presentation and evidence of supporting materials used during the presentations.

### **Assessment Due Date**

One week within returning back from the practicum

### **Return Date to Students**

Feedback will be provided within 10 working days of the due date.

### **Weighting**

15%

### **Minimum mark or grade**

25%

### **Assessment Criteria**

Presentation marking criteria will be provided on Moodle to assess individual participation in this team-based activity.

### **Referencing Style**

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

### **Submission**

Online

### **Learning Outcomes Assessed**

- Establish a framework for identifying community needs and opportunities for social innovation in a developing or marginalised community
- Clarify development contexts and opportunities for humanitarian engineering projects by engaging in collaborative discussions with community members
- Generate design ideas, evaluate potential solutions and select a humanitarian engineering project concept
- Design and develop rapid project prototypes to solicit community feedback
- Create a project implementation plan including assessment of the long-term viability of the design in terms of ongoing use by the community, ongoing maintenance and end of life arrangements

### **Graduate Attributes**

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

## 3 Team Project Report

### Assessment Type

Written Assessment

### Task Description

Each student team will be required to document the development of their project in a technical report comprising records of community engagement to gather information for their project; the design process which included investigating several potential solutions; consideration of the United Nations Sustainable Development Goals; development of a physical prototype; establishing a project implementation plan; and evidence of obtaining feedback on the prototype from their community.

### Assessment Due Date

Two weeks within returning back from the practicum

### Return Date to Students

Feedback will be provided within 10 working days of the due date.

### Weighting

30%

### Minimum mark or grade

25%

### Assessment Criteria

The team report is assessed against marking criteria based on the key elements described in this assessment. The final criteria are provided on Moodle. Levels of achievement will be awarded from 'Improvement Needed' (0 marks) up to 'Excellent Conduct' (2 marks). Individual grades will be determined based on the results of a Self and Peer-Assessment survey.

### Referencing Style

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

### Submission

Online Group

### Learning Outcomes Assessed

- Clarify development contexts and opportunities for humanitarian engineering projects by engaging in collaborative discussions with community members
- Generate design ideas, evaluate potential solutions and select a humanitarian engineering project concept
- Design and develop rapid project prototypes to solicit community feedback
- Create a project implementation plan including assessment of the long-term viability of the design in terms of ongoing use by the community, ongoing maintenance and end of life arrangements
- Demonstrate cross-cultural engagement, collaboration, project management and presentation of results in both verbal and written forms.

### Graduate Attributes

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

## 4 Portfolio

### Assessment Type

Portfolio

### Task Description

Students are required to prepare an individual Portfolio that contains a Grade Nomination, Workbook and Journal of Reflections. The Portfolio will provide evidence of obtaining the associated learning outcomes.

### Assessment Due Date



Three weeks within returning back from the practicum

**Return Date to Students**

Feedback will be provided within 10 working days of the due date.

**Weighting**

40%

**Minimum mark or grade**

50%

**Assessment Criteria**

Students are assessed against marking criteria based on the key elements described in this assessment. The final criteria are provided on Moodle. Levels of achievement will be awarded from 'Improvement Needed' (0 marks) up to 'Excellent Conduct' (2 marks).

**Referencing Style**

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

**Submission**

Online

**Learning Outcomes Assessed**

- Design and develop rapid project prototypes to solicit community feedback
- Create a project implementation plan including assessment of the long-term viability of the design in terms of ongoing use by the community, ongoing maintenance and end of life arrangements
- Demonstrate cross-cultural engagement, collaboration, project management and presentation of results in both verbal and written forms.

**Graduate Attributes**

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