ENEG13001 *Humanitarian Engineering Project*
Term 3 - 2019

All details in this unit profile for ENEG13001 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 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

| — 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 - 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 andriod/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
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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