

In Progress

Please note that this Unit Profile is still in progress. The content below is subject to change.



ENEC20003 *Geotechnical Engineering Design*

Term 3 - 2021

Profile information current as at 03/05/2024 07:37 am

All details in this unit profile for ENEC20003 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

Geotechnical Engineering Design will enable you to develop and apply your knowledge of Australian Standards and/or relevant guidance to analyse and design advanced geotechnical engineering structures involving a broad range of investigations. You will also learn to use computer software to analyse and design the geotechnical components; conduct site investigations; test and characterise geotechnical materials, design foundations, and earth retaining structures; and make assessments of geotechnical stability. You will also formulate, plan, manage, and complete projects individually and in teams in an ethical and professional manner by considering stakeholders and sustainability requirements. You will also document and communicate engineering information using appropriate language for a professional engineer. If you are enrolled in distance mode, you will be required to attend a compulsory residential school during the term.

Details

Career Level: *Postgraduate*

Unit Level: *Level 9*

Credit Points: 12

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.25

Pre-requisites or Co-requisites

Antirequisite: ENEC14014 Structural and Geotechnical Design

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 - 2021

No offerings for ENEC20003

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).

Residential Schools

This unit has a Compulsory Residential School for distance mode students and the details are:

Click here to see your [Residential School Timetable](#).

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 Postgraduate 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: 30%

2. **Written Assessment**

Weighting: 20%

3. **Practical Assessment**

Weighting: 20%

4. **In-class Test(s)**

Weighting: 30%

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 Website

Feedback

This is a very well run unit that covers complex engineering topics delivered very clearly and lucidly.

Recommendation

This practice will be continued and new innovations will be continued to further enhance the delivery.

Feedback from Moodle Website

Feedback

The use of GeoStudio provides students with a working knowledge of a standard industry software package. The variety of engineering topics was interesting.

Recommendation

This practice will be continued into the future. New and more industry-relevant problems will be included in the next offering.

Feedback from Moodle Website

Feedback

It would be good to have assignment feedback by way of comments mark-up on the submissions.

Recommendation

This issue will be investigated and ways to provide more comprehensive feedback will be explored.

Unit Learning Outcomes

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

1. Design group piles, pad foundations and earth retaining structures and assess stability of slopes
2. Formulate, plan, manage and complete projects individually or in teams in an ethical and professional manner considering stakeholder requirements and principals of sustainable development
3. Apply site investigation and geotechnical testing techniques to characterise sites and geotechnical materials based on Australian Standards
4. Use appropriate software to analyse geotechnical components
5. Demonstrate a professional level of communication and leadership.

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

Introductory

2.3 Application of systematic engineering synthesis and design processes. (LO: 1N)

Intermediate

1.3 In-depth understanding of specialist bodies of knowledge within the engineering discipline. (LO: 1I 2N)

3.3 Creative, innovative and pro-active demeanour. (LO: 1N 4I)

3.5 Orderly management of self, and professional conduct. (LO: 1I 4I)

Advanced

1.1 Comprehensive, theory-based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline. (LO: 1A 3N 4A)

1.2 Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline. (LO: 1I 4A)

1.4 Discernment of knowledge development and research directions within the engineering discipline. (LO: 2A)

2.1 Application of established engineering methods to complex engineering problem solving. (LO: 1A 3N 4I)

2.2 Fluent application of engineering techniques, tools and resources. (LO: 1I 3I 4A)

3.2 Effective oral and written communication in professional and lay domains. (LO: 2A 4I 5A)

3.4 Professional use and management of information. (LO: 1I 2A)

3.6 Effective team membership and team leadership. (LO: 2A 5I)

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
1 - Written Assessment - 30%	•	•			•
2 - Written Assessment - 20%		•		•	
3 - Practical Assessment - 20%			•		•
4 - In-class Test(s) - 30%	•				

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
1 - Knowledge	○	○	○	○	○
2 - Communication	○	○			○
3 - Cognitive, technical and creative skills		○		○	
4 - Research	○		○		
5 - Self-management		○	○		○
6 - Ethical and Professional Responsibility	○			○	
7 - Leadership					
8 - 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
1 - Written Assessment - 30%	○	○		○	○	○		
2 - Written Assessment - 20%	○		○		○			
3 - Practical Assessment - 20%	○			○	○			
4 - In-class Test(s) - 30%	○							

Textbooks and Resources

Textbooks

Information for Textbooks is not yet available.

The textbooks have not yet been finalised.

IT Resources

You will need access to the following IT resources:

Referencing Style

Information for Referencing Style has not been released yet.

This unit profile has not yet been finalised.

Teaching Contacts

Information for Teaching Contacts has not been released yet.

This unit profile has not yet been finalised.

Assessment Tasks

Information for Assessment Tasks has not been released yet.

This unit profile has not yet been finalised.

Academic Integrity Statement

Information for Academic Integrity Statement has not been released yet.

This unit profile has not yet been finalised.