

In Progress

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



ENEC12008 *Geotechnical Engineering*

Term 2 - 2024

Profile information current as at 15/05/2024 10:12 am

All details in this unit profile for ENEC12008 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

This unit explains how geological processes that produce landforms, geological structures, rocks, and soils affect the location, design, construction, and maintenance of civil engineering projects. In this unit, you will gain knowledge of the engineering properties of soils, conduct and analyse data from geotechnical tests performed according to Australian Standards, and prepare high quality geotechnical reports. You will select appropriate approaches for analysing the behaviour of soils in civil engineering applications. You will need to use appropriate 'civil engineering language' in context and document the process of modelling and analysis of geotechnical problems. You will present information in a professional manner and communicate, work, and learn, both individually and in teams. In this unit, you must complete compulsory practical activities. Refer to the Engineering Undergraduate Course Moodle site for proposed dates. This unit will promote progress toward the United Nation's Sustainable Development Goal 15 - Life on the land.

Details

Career Level: *Undergraduate*

Unit Level: *Level 2*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

Prerequisites: [ENEG11006 Engineering Statics AND [MATH11218 Applied Mathematics OR MATH11160 Technology Mathematics]

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 - 2024

- Bundaberg
- Cairns
- Gladstone
- Mackay
- Mixed Mode
- Rockhampton

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 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

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 Unit and Teaching Evaluation

Feedback

The online test was stress-free with plenty of time provided to understand and effectively answer questions.

Recommendation

This nature of the online test should be maintained in the future.

Feedback from Student Unit and Teaching Evaluation

Feedback

The lectures were very engaging with a lot of content presented but broken down in a manner that was interesting as well as easy to learn. With real-life examples, the lecturer challenged our thinking as well as assessed our understanding on the spot, making sure we all understood the concepts discussed prior to moving on to the next topic.

Recommendation

It is recommended to continue to prioritise the engaged teaching approach to provide students with the best possible learning experience.

Feedback from Student Unit and Teaching Evaluation

Feedback

The online test questions can be expanded, it felt like a lot of equations discussed in class were not needed.

Recommendation

The role of geotechnical equations in the course should be further reinforced in future offerings.

Feedback from Student Unit and Teaching Evaluation

Feedback

Students should be allowed to type their equations as opposed to only handwrite equations permitted during the test.

Recommendation

Students should be allowed to type the equations from the next offering for better structuring the equations needed to complete the test.

Unit Learning Outcomes

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

1. Identify and discuss the implications of geological factors affecting the location, design, construction, and maintenance of civil engineering projects
2. Conduct geotechnical tests, analyse test data, and prepare geotechnical reports
3. Calculate basic engineering properties of soils and explain the relationship to soil behaviour
4. Analyse the behaviour of soil in response to engineering applications using appropriate theories and national standards
5. Communicate, work and learn both individually and in teams, document the process of modelling, testing, and analysis and present the information in a professional manner.

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 3.4 Professional use and management of information. (LO: 5N)

Intermediate 1.1 Comprehensive, theory-based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline. (LO: 2I 3I 4I) 1.4 Discernment of knowledge development and research directions within the engineering discipline. (LO: 3I) 2.1 Application of established engineering methods to complex engineering problem-solving. (LO: 1N 3I 4I) 2.2 Fluent application of engineering techniques, tools and resources. (LO: 2I) 2.3 Application of systematic engineering synthesis and design processes. (LO: 4I) 3.2 Effective oral and written communication in professional and lay domains. (LO: 2I 5I) 3.5 Orderly management of self, and professional conduct. (LO: 2I)

Advanced 1.3 In-depth understanding of specialist bodies of knowledge within the engineering discipline. (LO: 1N 2A 3I 4A) 1.5 Knowledge of engineering design practice and contextual factors impacting the engineering discipline. (LO: 1I 3A) 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 Undergraduate Course 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=1511>

Alignment of Learning Outcomes, Assessment and Graduate Attributes

 N/A Level	 Introductory Level	 Intermediate Level	 Graduate Level	 Professional Level	 Advanced Level
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Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
1 - Written Assessment - 20%	•		•		•
2 - Written Assessment - 20%	•		•	•	•
3 - Practical Assessment - 30%		•		•	•
4 - Online Test - 30%			•	•	

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
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

Information for Textbooks and Resources has not been released yet.

This information will be available on Monday 17 June 2024

Academic Integrity Statement

Information for Academic Integrity Statement has not been released yet.

This unit profile has not yet been finalised.