

In Progress

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



ENEC14017 Water Resources Engineering

Term 2 - 2024

Profile information current as at 19/05/2024 04:10 am

All details in this unit profile for ENEC14017 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 will be introduced to the principles of hydraulics and hydrology and how to apply solutions to solve water engineering problems. This unit introduces the principles to solve water resources engineering problems on catchment hydrology and urban floodwater management. You will study governing concepts of probability, risk, and uncertainty applied to hydrology and hydraulics. You will also study rainfall patterns, river and reservoir routing, rapid and gradually varying flow in open channels, flood and stormwater control, and the design of hydraulic structures. To complete these tasks, you must use appropriate technical language, communicate professionally, and work in teams and individually.

Details

Career Level: *Undergraduate*

Unit Level: *Level 4*

Credit Points: *12*

Student Contribution Band: *8*

Fraction of Full-Time Student Load: *0.25*

Pre-requisites or Co-requisites

Prerequisite: ENEC12010 Hydraulics & Hydrology

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
- Online
- 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).

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 Undergraduate 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

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 & Self-reflection

Feedback

Some students perceived the workload as heavy.

Recommendation

Unit content evaluation should be carried out to assess the workload.

Feedback from Student Unit and Teaching Evaluation

Feedback

Some students found the useful feedback was limited.

Recommendation

A group feedback session to discuss overall feedback should be conducted after marking the assessment. It should allow for a more comprehensive understanding of the feedback provided and promote collective learning and improvement.

Unit Learning Outcomes

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

1. Apply skills in hydraulics and hydrology to water engineering design
2. Conduct a hydrology assessment of a catchment
3. Design urban stormwater management systems
4. Prepare team reports for water engineering projects.

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 1.4 Discernment of knowledge development and research directions within the engineering discipline. (LO: 1N 2N 3N)

Intermediate 2.3 Application of systematic engineering synthesis and design processes. (LO: 1I 2I 3I) **2.4** Application of systematic approaches to the conduct and management of engineering projects. (LO: 1I 2I 3I) **3.3** Creative, innovative, and proactive demeanor. (LO: 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 2A 3I) **1.2** Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences underpin the engineering discipline. (LO: 1A 2A 3I) **1.3** In-depth understanding of specialist bodies of knowledge within the engineering discipline. (LO: 1A 2A 3I) **1.5** Knowledge of engineering design practice and contextual factors impacting the engineering discipline. (LO: 1A 2A 3I) **1.6** Understanding of the scope, principles, norms, accountabilities, and bounds of sustainable engineering practice in the specific discipline. (LO: 1A 2A 3I) **2.1** Application of established engineering methods to complex engineering problem-solving. (LO: 1A 2A 3I) **2.2** Fluent application of engineering techniques, tools, and resources. (LO: 1A 2A 3I) **3.2** Effective oral and written communication in professional and lay domains. (LO: 4A) **3.4** Professional use and management of information. (LO: 4A) **3.6** Effective team membership and team leadership. (LO: 4A)

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 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



Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes			
	1	2	3	4
1 - Written Assessment - 35%	•	•		•
2 - Written Assessment - 35%			•	•
3 - Online Test - 30%	•	•	•	

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes			
	1	2	3	4
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.