

In Progress

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



ENEE20003 *Advanced Communication Systems*

Term 2 - 2024

Profile information current as at 19/05/2024 07:47 am

All details in this unit profile for ENEE20003 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 expand your understanding of communications systems encompassing wireless and optical technologies. You will gain advanced knowledge of communication devices and systems and the ability to analyse various parameters such as loss, bandwidth, and signal quality. You will verify the developed theories using advanced simulation tools and gain knowledge of state-of-the-art communication systems. This unit will also provide you with opportunities to further develop your communication skills through collaborative teamwork and participation in class discussions. Furthermore, the unit also provides some awareness of the UN Sustainable Development Goal 9 in the context of engineering practice which is to build resilient infrastructure, promote inclusive and sustainable industrialisation, and foster innovation by developing advanced communications systems.

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

There are no requisites for 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 2 - 2024

- Melbourne
- 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 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

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 Unit Survey's feedback

Feedback

The assessments were challenging and perhaps more difficult than what they should be.

Recommendation

Revise the assessment tasks to ensure they align well with the scaffolded learning activities. In addition, design and provide learning activities to help students develop knowledge and skills to solve more challenging problems.

Feedback from Unit Survey's feedback

Feedback

Students are not familiar with the industry software used for the design assessment. Although, the software has been taught in the intensive learning workshop, it is helpful to have more practices of the software during the term.

Recommendation

Incorporate software-based problems in the weekly tutorial exercises to allow early and more frequent practices of using the software and therefore enhance competency in using the software.

Feedback from Unit Coordinator's reflection

Feedback

The range of topics covered in the unit are perhaps excessive for one term.

Recommendation

Revise the unit learning contents to streamline the materials and improve the content flow.

Feedback from Unit Survey's feedback

Feedback

It is helpful to provide guidance and specific explanations of the assessment tasks to help students perform well in the assessments.

Recommendation

Provide dedicated workshops to assist students with the assessments to improve their understanding of the assessment expectations and provide suggestive strategies to tackle the assessment problems.

Unit Learning Outcomes

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

1. Analyse communication systems
2. Calculate power, bandwidth, and signal quality for the communication systems
3. Examine the characteristics of common communication components and systems through simulations
4. Design sophisticated communication systems and predict their performance
5. Produce professional engineering reports adhering to electrical engineering standards using appropriate terminologies and symbols
6. Successfully complete engineering projects autonomously and in a team with a responsible, ethical, and professional attitude.

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

- 3.1 Ethical conduct and professional accountability. (LO: 5N 6N)
- 3.2 Effective oral and written communication in professional and lay domains. (LO: 5N 6N)
- 3.5 Orderly management of self, and professional conduct. (LO: 5N 6N)
- 3.6 Effective team membership and team leadership. (LO: 3N 4N 5N 6N)

Intermediate

- 1.2 Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences that underpin the engineering discipline. (LO: 1I 2I 3I 4I)
- 1.4 Discernment of knowledge development and research directions within the engineering discipline. (LO: 1I 2I 3I 4I)
- 2.1 Application of established engineering methods to complex engineering problem solving. (LO: 1I 2I 3I 4I)
- 2.3 Application of systematic engineering synthesis and design processes. (LO: 4I)
- 2.4 Application of systematic approaches to the conduct and management of engineering projects. (LO: 2I 3I 4I 6I)
- 3.4 Professional use and management of information. (LO: 1I 2I 3I 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: 1I 2I 3I 4A)
- 1.3 In-depth understanding of specialist bodies of knowledge within the engineering discipline. (LO: 1I 2A 3I 4A)
- 2.2 Fluent application of engineering techniques, tools, and resources. (LO: 1I 2I 3I 4A 5I 6I)

Note: LO refers to the Learning Outcome number(s) that 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 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



Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes					
	1	2	3	4	5	6
1 - Online Quiz(zes) - 25%	•	•				
2 - Written Assessment - 35%	•	•			•	•
3 - Project (applied) - 40%			•	•	•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
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						

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.