In Progress

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



ENEE13018 Analogue Electronics Term 2 - 2022

Profile information current as at 06/05/2024 09:49 pm

All details in this unit profile for ENEE13018 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 introduces the operating principles of basic analogue electronic elements such as diodes, transistors, and opamps. You will then use these basic elements to construct analogue circuits such as power supplies, amplifiers, filters, and oscillators. You will also apply analysis and design techniques together with spreadsheet and simulation software tools to virtually prototype and test analogue electronic circuits. You will use fundamental electrical engineering knowledge and language in context and document the process of design, modelling, and analysis. You will present information, communicate, work, and learn in a professional manner. On satisfactory completion, you should be able to research and discuss the application of analogue electronics devices in different contexts such as power electronics, signal processing, and communication. Students enrolled in distance mode are required to attend a compulsory Residential School.

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

Prerequisites: (ENEG11009 Fundamentals of Energy and Electricity OR PHYS11185 Engineering Physics B OR ENAG11002 Energy and Electricity) AND (MATH11218 Applied Mathematics OR MATH1160 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 <u>Assessment Policy and Procedure (Higher Education Coursework)</u>.

Offerings For Term 2 - 2022

No offerings for ENEE13018

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 <u>Residential School Timetable</u>.

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 <u>University's Grades and Results Policy</u> 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 <u>CQUniversity Policy site</u>.

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 Emails; 'Have Your Say' feedback.

Feedback

Students felt that the two workbook submissions took up too much time and thus detracted from the time that could be spent on more important matters.

Recommendation

Reduce workbook items to only those needed for possible assessment coverage. Alternatively, cross over to online quizzes to force students to work through unit content.

Feedback from Emails; 'Have Your Say' feedback.

Feedback

The practical analysis-design approach taken in this unit was enjoyed/appreciated by students.

Recommendation

Continue with and refine the analysis and design theme throughout this unit.

Unit Learning Outcomes

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

- 1. Research the operation of semiconductor devices and identify their practical applications
- 2. Analyse the operation and deployment of analogue electronics devices in various applications
- 3. Design amplifiers and power supplies for typical electronic systems
- 4. Model and analyse the behaviour of electronic circuits using computer-aided tools
- 5. Interpret function requirements, evaluate design options, and prepare project documents for typical applications
- 6. Construct electronic circuits virtually and/or with hardware to a given design and validate their operation
- 7. Interpret and use electronic engineering terminology and symbols that conform to Australian Standards
- 8. Work collaboratively and autonomously to solve problems and record and communicate clearly and professionally the approach used to solve problems.

The Learning Outcomes for this unit are linked with Engineers Australia's Stage 1 Competency Standard for Professional Engineers, Stage 1 Competency Standard for Engineering Technologists, and Stage 1 Competency Standard for Engineering Associates.

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	7	8		
1 - Written Assessment - 0%	•	٠	٠			•	•	٠		
2 - Written Assessment - 15%	•	٠	٠				•	٠		
3 - Practical and Written Assessment - 30%	٠	٠	٠	٠	•	٠	٠	٠		

Assessment Tasks	Learning Outcomes								
	1	2	3	4	5	6	7	8	
4 - Written Assessment - 15%	•	•	•	•	•	•	•	•	
5 - Take Home Exam - 40%	٠	٠	•	•	•		•	•	

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes								
	1	2	3	4	5	6	7	8	
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 - Written Assessment - 0%	•	•	•	•	•	•				
2 - Written Assessment - 15%	•	•	•	•		•		•		
3 - Practical and Written Assessment - 30%	•	•	•	•	•	•	•	•		
4 - Written Assessment - 15%	•	•	•	•		•		•		
5 - Take Home Exam - 40%	•	•	•					•		

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.