In Progress

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



ENEE13020 *Digital Electronics* Term 1 - 2022

Profile information current as at 29/04/2024 09:09 am

All details in this unit profile for ENEE13020 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

Digital Electronics will provide you with the theoretical and the practical knowledge of digital electronics devices in information processing applications. You will work in teams and individually to model, analyse, design and verify digital electronic design projects. Using software simulations and practical constructions of digital circuits you will verify operation of digital systems. You will develop the knowledge to analyse the operation of combinational and sequential logic circuits within the discrete and Integrated Circuit (IC) digital electronic devices. You will learn to interpret functional requirements, research implementation options, construct models for testing and verify system performance. You will prepare project documents using symbols and terminologies that comply with Australian standards and to pass this unit students must achieve at least 50% mark in the project assessment. In this unit, you must complete compulsory practical activities. Refer to the Engineering Undergraduate Course Moodle site for proposed dates.

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

Offerings For Term 1 - 2022

No offerings for ENEE13020

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

 Online Test Weighting: 15%
Practical Assessment Weighting: 30%
Project (applied) Weighting: 40%
Online Test Weighting: 15%

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 Unit's survey

Feedback

The design project, while initially seeming difficult, really helped with understanding many of the concepts in the course.

Recommendation

The project provides an authentic assessment of the materials learned in this unit. It is also an opportunity for students to learn and to exercise problem solving and creativity. The project will remain a key assessment task in this unit.

Feedback from Unit's survey

Feedback

The laboratory really helps to link the theory with real-world practices and I really enjoyed lab work on campus.

Recommendation

The lab is an essential learning activity for this unit and it will be retained and improved.

Feedback from Unit's survey

Feedback

Laboratory requires better supervision.

Recommendation

Improve laboratory working procedures and better briefing for lab instructors across all campuses.

Unit Learning Outcomes

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

- 1. Discuss digital number systems, their operations and explain how these systems are used in the processing of digital information
- 2. Analyse the operation of combinational and sequential logic circuits within the discrete and Integrated Circuit (IC) digital electronic devices
- 3. Interpret functional requirements, evaluate circuit options and conceive suitable system designs
- 4. Verify operation of digital systems though software simulations and practical constructions of digital circuits
- 5. Explain the various integrated circuit technologies and their future development trends
- 6. Use appropriate electronic engineering terminologies and symbols that conform to Australian Standards to prepare technical documentations for basic digital system designs and applications
- 7. Work collaboratively and autonomously to solve problems, document and communicate clearly and professionally the approaches 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			
1 - Online Test - 15%	•				٠					
2 - Practical Assessment - 30%	•	٠	•	٠		•	٠			
3 - Project (applied) - 40%		•	•	٠		•	٠			
4 - Online Test - 15%					٠					

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes									
	1	2	3	4	5	6	7			
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 - Online Test - 15%		•	•			•					
2 - Practical Assessment - 30%	•	•	•		•	•					
3 - Project (applied) - 40%	•	•	•	•		•					
4 - Online Test - 15%		•	•			•					

Textbooks and Resources

Textbooks

ENEE13020

Prescribed

COMPKIT_ENEE13020

Edition: 1 (2021) CQU-SET Binding: Other ENEE13020

Prescribed

DIGITAL FUNDAMENTAL

Eleventh Global Edition (2015) Authors: Thomas L. Floyd Pearson Harlow , Essex , England ISBN: 9781292075983 Binding: Paperback

Additional Textbook Information

Additional information for the textbook:

There is also an electronic version of the textbook at a reduced price called "Digital Fundamentals Global Edition VitalSource (11e)", ISBN

9781292075990. Please refer to the publisher's webpage for ordering information http://www.pearson.com.au/9781292075990

Additional information for the lab-kit:

Distance students have the following options for completing the lab component of this unit:

1. Physically attend any of the lab (these are scheduled in blocks) scheduled in any of the campuses (please refer to time table for the dates and campuses)

2. If you can self-supply the equipment required for conducting the labs as listed below, you do not need to purchase TMKIT. You can complete the labs at home without attending the scheduled labs.

You need to purchase TMKIT which has the following items in case you are unable to do 1 or 2 above, please purchase TMKIT(this kit has brand new equipment) or TMKITU (a limited number of TMKITU are available which comprise used equipment on campus before. TMKITU comes with a replacement warranty from school of engineering and technology). COMPKIT_ENEE13020

Please see additional information on TMKIT or TMKITU (above).

Those who decide to order TMKIT or TMKITU should also order one COMPKIT_ENEE13020, which has all the components required to complete the labs of this unit from home.

View textbooks at the CQUniversity Bookshop

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.