ELEC310

Electronics Project

S2 Day 2018

Dept of Engineering

Contents

General Information

Unit convenor and teaching staff Unit Convener Ediz Cetin ediz.cetin@mq.edu.au Contact via Email 44 Waterloo Road, Room:117 Tuesday's 13:30 – 14:30 hrs and Wednesday's 13:00 – 14:00 hrs
Credit points 3
Prerequisites (ELEC324 or ELEC342(P) or ELEC343 or ELEC374 or ELEC375 or ELEC376) and permission by special approval
Corequisites
Co-badged status
Unit description This unit works through the stages of completing individual projects involving the construction and testing of an electronic system. The projects include: identification of tasks and resources; design and simulation of a circuit; prototyping and debugging the design; layout and construction of a final circuit board; and planning and documentation of a project. There is some emphasis on communication skills; each student prepares a written proposal and final report, and gives a seminar on the proposal and the completed project. Strict design and verification goals and deadlines must be set out, and the work organised around them.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at https://www.mq.edu.au/study/calendar-of-dates

Learning Outcomes

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

Demonstrate a working knowledge of the engineering process and the associated documents

Understand the role and produce the standard engineering documentation work products as part of the execution of a multi-disciplinary project of some significance involving self-

learning

Use basic, standard engineering practices of problem decomposition, system-level modelling, model refinement, manufacturing costing, and background research to properly develop and execute the engineering process and produce the associated documentation

Design and optimise a circuit to meet functional specification

General Assessment Information

Grading and passing requirement for unit

In order to pass this unit a student must obtain a mark of 50 or more for the unit (i.e. obtain a passing grade P/ CR/ D/ HD).

For further details about grading, please refer below in the policies and procedures section.

Late submissions and Resubmissions

Late submissions will attract a penalty of 10% marks per day. Extenuating circumstances will be considered upon lodgement of a formal notice of disruption of studies.

Resubmissions of work are not allowed after due date.

Assessment Tasks

Name	Weighting	Hurdle	Due
Requirements Document	25%	No	Week 3
Project Report	75%	No	Week 13

Requirements Document

Due: **Week 3**
Weighting: **25%**

individual written report on background and requirements

On successful completion you will be able to:

- Demonstrate a working knowledge of the engineering process and the associated documents
- Understand the role and produce the standard engineering documentation work products as part of the execution of a multi-disciplinary project of some significance involving self-learning

Project Report

Due: **Week 13**
Weighting: **75%**

Final project report and reflection

On successful completion you will be able to:

- Demonstrate a working knowledge of the engineering process and the associated documents
- Understand the role and produce the standard engineering documentation work products as part of the execution of a multi-disciplinary project of some significance involving self-learning
- Use basic, standard engineering practices of problem decomposition, system-level modelling, model refinement, manufacturing costing, and background research to properly develop and execute the engineering process and produce the associated documentation
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Delivery and Resources

Unit Delivery

This is a project-based unit and has no scheduled lectures or tutorial sessions. Special lectures may be organised and related announcements will be made via iLearn.

Required and Recommended Texts/Materials

There is not set textbook for this unit. The students are required to discuss with their supervisor regarding required/recommended reading materials, as suited to individual project needs.

Logbook

This unit requires a logbook. The students should maintain an individual logbook which should contain a dated log of day-to-day activities undertaken in relation to the project.

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- Academic Appeals Policy
- Academic Integrity Policy
- Academic Progression Policy

- Assessment Policy
- Fitness to Practice Procedure
- Grade Appeal Policy
- Complaint Management Procedure for Students and Members of the Public
- Special Consideration Policy *(**Note:** The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.)*

Undergraduate students seeking more policy resources can visit the Student Policy Gateway (https://students.mq.edu.au/support/study/student-policy-gateway). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit Policy Central (https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: https://students.mq.edu.au/study/getting-started/student-conduct

Results

Results shown in *iLearn*, or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in eStudent. For more information visit ask.mq.edu.au.

Student Support

Macquarie University provides a range of support services for students. For details, visit http://students.mq.edu.au/support/

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to improve your marks and take control of your study.

- Workshops
- StudyWise
- Academic Integrity Module for Students
- Ask a Learning Adviser

Student Services and Support

Students with a disability are encouraged to contact the Disability Service who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the Acceptable Use of IT Resources Policy. The policy applies to all who connect to the MQ network including students.

Graduate Capabilities

Creative and Innovative

Our graduates will also be capable of creative thinking and of creating knowledge. They will be imaginative and open to experience and capable of innovation at work and in the community. We want them to be engaged in applying their critical, creative thinking.

This graduate capability is supported by:

Learning outcomes

- Use basic, standard engineering practices of problem decomposition, system-level modelling, model refinement, manufacturing costing, and background research to properly develop and execute the engineering process and produce the associated documentation
- Design and optimise a circuit to meet functional specification

Assessment task

- Project Report

Capable of Professional and Personal Judgement and Initiative

We want our graduates to have emotional intelligence and sound interpersonal skills and to demonstrate discernment and common sense in their professional and personal judgement. They will exercise initiative as needed. They will be capable of risk assessment, and be able to handle ambiguity and complexity, enabling them to be adaptable in diverse and changing environments.

This graduate capability is supported by:

Learning outcome

- Understand the role and produce the standard engineering documentation work products as part of the execution of a multi-disciplinary project of some significance involving self-learning

Assessment tasks

- Requirements Document
- Project Report

Commitment to Continuous Learning

Our graduates will have enquiring minds and a literate curiosity which will lead them to pursue knowledge for its own sake. They will continue to pursue learning in their careers and as they participate in the world. They will be capable of reflecting on their experiences and relationships with others and the environment, learning from them, and growing - personally, professionally and socially.

This graduate capability is supported by:

Learning outcome

- Understand the role and produce the standard engineering documentation work products as part of the execution of a multi-disciplinary project of some significance involving self-learning

Assessment tasks

- Requirements Document
- Project Report

Discipline Specific Knowledge and Skills

Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession. They will be able to demonstrate, where relevant, professional technical competence and meet professional standards. They will be able to articulate the structure of knowledge of their discipline, be able to adapt discipline-specific knowledge to novel situations, and be able to contribute from their discipline to inter-disciplinary solutions to problems.

This graduate capability is supported by:

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Critical, Analytical and Integrative Thinking

We want our graduates to be capable of reasoning, questioning and analysing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity, in the workplace, and in the world. We want them to have a level of scientific and information technology literacy.

This graduate capability is supported by:

Learning outcomes

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Problem Solving and Research Capability

Our graduates should be capable of researching; of analysing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge; and they should be able to relate their knowledge to complex situations at work or in the world, in order to diagnose and solve problems. We want them to have the confidence to take the initiative in doing so, within an awareness of their own limitations.

This graduate capability is supported by:

Learning outcomes

- Demonstrate a working knowledge of the engineering process and the associated documents

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Effective Communication

We want to develop in our students the ability to communicate and convey their views in forms effective with different audiences. We want our graduates to take with them the capability to read, listen, question, gather and evaluate information resources in a variety of formats, assess, write clearly, speak effectively, and to use visual communication and communication technologies as appropriate.

This graduate capability is supported by:

Learning outcomes

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