



# ELEC3042

## Embedded Systems

Session 1, Weekday attendance, North Ryde 2020

*School of Engineering*

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## General Information

Unit convenor and teaching staff

Unit Convenor

Rex Di Bona

[rex.dibona@mq.edu.au](mailto:rex.dibona@mq.edu.au)

Contact via email

50 Waterloo Road

by appointment via email

Credit points

10

Prerequisites

(ELEC2042 or ELEC242 or ELEC241) or (MTRN2060 or ELEC260) or (admission to MEngElecEng or MEngNetTeleEng)

Corequisites

Co-badged status

Unit description

Project-based unit. Students complete a major project that emphasize aspects of digital computing systems, including state machines, digital data processing, arithmetic processing, timing, internal and external peripherals. Students will design a program for a microcontroller that will perform processing of real world data to achieve a defined aim. This programming exercise will be used to explore the complexities that make up digital hardware designs.

## 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:

**ULO1:** Describe the various components that comprise a modern embedded system, including those that are essential and those that are optional.

**ULO2:** Distinguish between the different external and internal interfaces and select which is most appropriate for a given circumstance.

**ULO3:** Interface a CPU with both internal and external functional units.

**ULO4:** Program an embedded system in both the assembly and C languages.

**ULO5:** Construct state machines on an embedded system

## Assessment Tasks

### Coronavirus (COVID-19) Update

Assessment details are no longer provided here as a result of changes due to the Coronavirus (COVID-19) pandemic.

Students should consult [iLearn](#) for revised unit information.

[Find out more about the Coronavirus \(COVID-19\) and potential impacts on staff and students](#)

## General Assessment Information

You will be working on a project both during the laboratory sessions and at other times of your choosing. There will be two oral defences to ensure that you are on track with your project. These are hurdle assessments. If you do NOT pass these on the first attempt you will be provided a second attempt, generally in the following week.

## Delivery and Resources

### Coronavirus (COVID-19) Update

Any references to on-campus delivery below may no longer be relevant due to COVID-19.

Please check here for updated delivery information: [https://ask.mq.edu.au/account/pub/display/unit\\_status](https://ask.mq.edu.au/account/pub/display/unit_status)

Students in this unit will be provided with a kit of parts. Utilising this kit of parts the students will have to devise a solution to a problem that is presented. They must demonstrate full understanding of all aspects of their solution. There is NO groupwork in this unit, all work is individual.

## Unit Schedule

### Coronavirus (COVID-19) Update

The unit schedule/topics and any references to on-campus delivery below may no longer be relevant due to COVID-19. Please consult [iLearn](#) for latest details, and check here for updated delivery information: [https://ask.mq.edu.au/account/pub/display/unit\\_status](https://ask.mq.edu.au/account/pub/display/unit_status)

Please refer to [ilearn](#) for details on the schedule.

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](#) (<https://staff.m>

[mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central](http://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.*)

Students seeking more policy resources can visit the [Student Policy Gateway](https://students.mq.edu.au/support/study/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](http://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<http://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 published on platform other than [eStudent](#), (eg. iLearn, Coursera etc.) 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](http://ask.mq.edu.au) or if you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@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](http://mq.edu.au/learningskills)) provides academic writing resources and study strategies to help you improve your marks and take control of your study.

- [Getting help with your assignment](#)
- [Workshops](#)
- [StudyWise](#)

- [Academic Integrity Module](#)

The Library provides online and face to face support to help you find and use relevant information resources.

- [Subject and Research Guides](#)
- [Ask a Librarian](#)

## 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](http://ask.mq.edu.au)

If you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto:globalmba.support@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/](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.

## Changes from Previous Offering

This is the first running of this unit. It is similar to the old ELEC342, but the exam has been removed, and heavier emphasis is placed on the products presented by the students.

## Changes since First Published

Date	Description
05/03/2020	Assessment tasks are now listed.