



# ENGG1050

## Engineering Design

Session 2, Special circumstances 2021

*School of Engineering*

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#### **Disclaimer**

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#### **Session 2 Learning and Teaching Update**

The decision has been made to conduct study online for the remainder of Session 2 for all units WITHOUT mandatory on-campus learning activities. Exams for Session 2 will also be online where possible to do so.

This is due to the extension of the lockdown orders and to provide certainty around arrangements for the remainder of Session 2. We hope to return to campus beyond Session 2 as soon as it is safe and appropriate to do so.

Some classes/teaching activities cannot be moved online and must be taught on campus. You should already know if you are in one of these classes/teaching activities and your unit convenor will provide you with more information via iLearn. If you want to confirm, see the list of [units with mandatory on-campus classes/teaching activities](#).

Visit the [MQ COVID-19 information page](#) for more detail.

## General Information

Unit convenor and teaching staff

Convenor

Simon Clark

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Nicholas Tse

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Credit points

10

Prerequisites

ENGG1000

Corequisites

Co-badged status

Unit description

The 2nd SPINE unit aimed to develop professional, transferable and employability skills. The unit consists of a series of online modules, electoral and project-based learning activities. This unit introduces engineering challenges that demand the students to apply fundamental knowledge in resolving ill-defined engineering problems. Students will be exposed to a team-based working environment that is representative of any working engineering groups. Through project-based learning and scaffolded activities, students will develop the competencies and transferable skills required to tackle more advance and domain-specific engineering problems.

## Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://students.mq.edu.au/important-dates>

## Learning Outcomes

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

**ULO1:** Evaluate an engineering problem and enumerate related constraints and requirements.

**ULO2:** Communicate an engineering problem and associated solutions professionally, both orally and in writing.

**ULO3:** Employ strategies to collaborate effectively with a team on solving an engineering problem.

**ULO4:** Apply the structured engineering design process framework in defining and solving imprecisely defined engineering problems.

**ULO5:** Apply constructive techniques to reflect upon positive and negative experiences for personal and professional growth.

## 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 to the policies and procedures section.

### Hurdle Requirements

Participation in workshop sessions is a hurdle requirement. Students are required to attend at least 8/12 workshop sessions AND a majority of the online quizzes to pass this unit.

### Project work

Students are required to demonstrate effective team working for the project work. The level of commitment will be dependent on the team and members. The engagement styles are up to the team members to decide and maybe a mixed-mode (ie Online as well as in-person type work).

### COVID19 Related Safety concerns

Engagement style may vary due to government and university safety policies. Make sure to adhere to any safety requirements when being on campus. There may be sudden changes to the preferred engagement style for how the classes and teamwork are to be operated. It is up to the students to be adaptive to ensure that the work and learning activities are still completed in a timely fashion. For any changes and updates please refer to iLearn for more details.

## Assessment Tasks

Name	Weighting	Hurdle	Due
<u><a href="#">A0. Attendance</a></u>	0%	Yes	Week 13
<u><a href="#">A1. Professional development</a></u>	20%	No	Week 13
<u><a href="#">A2. Technical Writing</a></u>	15%	No	Week 5
<u><a href="#">A3. Periodic Quizzes</a></u>	20%	No	refer to iLearn

Name	Weighting	Hurdle	Due
<a href="#">A4sc. Project 1</a>	45%	No	refer to iLearn

## A0. Attendance

Assessment Type <sup>1</sup>: Participatory task

Indicative Time on Task <sup>2</sup>: 1 hours

Due: **Week 13**

Weighting: **0%**

**This is a hurdle assessment task (see [assessment policy](#) for more information on hurdle assessment tasks)**

Hurdle requirement, Students need to demonstrate satisfactory participation and contribution in workshop activities across session.

On successful completion you will be able to:

- Employ strategies to collaborate effectively with a team on solving an engineering problem.

## A1. Professional development

Assessment Type <sup>1</sup>: Portfolio

Indicative Time on Task <sup>2</sup>: 2 hours

Due: **Week 13**

Weighting: **20%**

Professional development and portfolio managing. As a part of the development of professional identity and personal development, students are required to participate in a range of professional development activities which may include attending seminars by industry experts or demonstrate contribution towards student society.

On successful completion you will be able to:

- Communicate an engineering problem and associated solutions professionally, both orally and in writing.
- Apply constructive techniques to reflect upon positive and negative experiences for personal and professional growth.

## A2. Technical Writing

Assessment Type <sup>1</sup>: Report

Indicative Time on Task <sup>2</sup>: 5 hours

Due: **Week 5**

Weighting: **15%**

Students will be required to collect data and present technical data and experimental design in a technical report.

On successful completion you will be able to:

- Communicate an engineering problem and associated solutions professionally, both orally and in writing.

## A3. Periodic Quizzes

Assessment Type <sup>1</sup>: Quiz/Test

Indicative Time on Task <sup>2</sup>: 2.5 hours

Due: **refer to iLearn**

Weighting: **20%**

Ongoing fortnightly online quizzes on podcast related topics and materials from designated study texts.

On successful completion you will be able to:

- Evaluate an engineering problem and enumerate related constraints and requirements.
- Apply the structured engineering design process framework in defining and solving imprecisely defined engineering problems.
- Apply constructive techniques to reflect upon positive and negative experiences for personal and professional growth.

## A4sc. Project 1

Assessment Type <sup>1</sup>: Project

Indicative Time on Task <sup>2</sup>: 4 hours

Due: **refer to iLearn**

Weighting: **45%**

This is the first of many team-based project vehicles within the SPINE units. Students are required to apply strategies learnt in this unit and apply hands-on skills when required to work as a team to solve an engineering challenge. Students will have weekly deliverables and project milestones and will be required to present at the end of the project.

On successful completion you will be able to:

- Evaluate an engineering problem and enumerate related constraints and requirements.
- Communicate an engineering problem and associated solutions professionally, both orally and in writing.
- Employ strategies to collaborate effectively with a team on solving an engineering problem.
- Apply the structured engineering design process framework in defining and solving imprecisely defined engineering problems.

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<sup>1</sup> If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the [Learning Skills Unit](#) for academic skills support.

<sup>2</sup> Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

## Delivery and Resources

Access information on this unit on iLearn at <https://ilearn.mq.edu.au/login/MQ/>

Some resources to start with:

### Useful books

1. Engineering Your Future: An Australasian Guide; Dowling, Carew, Hadgraft; John Wiley & Sons Australia, Ltd.; 2nd Ed (2013).
2. To Engineer is Human, Henry Petroski; several publishers and editions starting 1985.

**Useful URLs** [www.engineersaustralia.org.au](http://www.engineersaustralia.org.au)

### Useful videos:

1. [Google Scholar](#) This video provides a quick introduction to Google Scholar and how to search it effectively. It also shows how to access it to ensure you link to full-text material which Macquarie University Library already subscribes to. <https://www.youtube.com/>

watch?v=jl5ixQmCXDU&feature=youtu.be

2. [How to find a government report](#) This short video provides you with tips and tricks for finding government reports easily using Google [https://www.youtube.com/watch?v=2vqS4P\\_Q2z8](https://www.youtube.com/watch?v=2vqS4P_Q2z8)
3. [Acknowledging the words and ideas of others](#) This video introduces referencing the ideas and works of others, copyright and creative commons licencing. [https://www.youtube.com/watch?v=QXlo98z\\_yFs](https://www.youtube.com/watch?v=QXlo98z_yFs)

## Unit Schedule

Will be available on iLearn.

## Policies and Procedures

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

Students seeking more policy resources can visit [Student Policies](#) (<https://students.mq.edu.au/support/study/policies>). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

To find other policies relating to Teaching and Learning, visit [Policy Central](#) (<https://policies.mq.edu.au>) and use the [search tool](#).

## Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/admin/other-resources/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](#) 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 Enquiry Service

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)

## Equity 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.

## 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

In response to LEU and other student feedbacks, some changes were made to the project and the workload requirement as well as engagement style.