ENGG1050
Engineering Design
Session 2, Special circumstances 2021
School of Engineering

Contents

General Information .................................................. 2
Learning Outcomes .................................................. 2
General Assessment Information ............................... 3
Assessment Tasks .................................................... 3
Delivery and Resources ........................................... 6
Unit Schedule .......................................................... 7
Policies and Procedures ............................................ 7
Changes from Previous Offering ............................... 8

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Notice
Some on-campus classes have moved online for the first two weeks of Session, before returning to campus in Week 3. If you are studying a unit outside of the primary Session 2 timetable, please contact your teaching staff team for further details.

Some classes/teaching activities cannot be moved online and must be taught on campus. To find out if you are enrolled in one of these classes/teaching activities, you can check to see if your unit is on the list of units with mandatory on-campus classes/teaching activities.

Your Unit Convenor will provide more information via an iLearn announcement when your iLearn unit becomes available.
General Information

Unit convenor and teaching staff
Convener
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Appointment via Email

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

<table>
<thead>
<tr>
<th>Name</th>
<th>Weighting</th>
<th>Hurdle</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>A0. Attendance</td>
<td>0%</td>
<td>Yes</td>
<td>Week 13</td>
</tr>
<tr>
<td>A1. Professional development</td>
<td>20%</td>
<td>No</td>
<td>Week 13</td>
</tr>
<tr>
<td>A2. Technical Writting</td>
<td>15%</td>
<td>No</td>
<td>Week 5</td>
</tr>
<tr>
<td>A3. Periodic Quizzes</td>
<td>20%</td>
<td>No</td>
<td>refer to iLearn</td>
</tr>
</tbody>
</table>
### A0. Attendance

**Assessment Type** ¹: Participatory task  
**Indicative Time on Task** ²: 1 hours  
**Due:** Week 13  
**Weighting:** 0%  

*This is a hurdle assessment task (see [assessment policy](https://unitguides.mq.edu.au/unit_offerings/136199/unit_guide/print) 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** ¹: Portfolio  
**Indicative Time on Task** ²: 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 Writting

Assessment Type: Report
Indicative Time on Task: 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: Quiz/Test
Indicative Time on Task: 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: Project
Indicative Time on Task: 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.

1 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.

2 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**

2. To Engineer is Human, Henry Petroski; several publishers and editions starting 1985.

**Useful URLs** 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/
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

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

## Unit Schedule

Will be available on iLearn.

## 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.*)

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](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/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
Unit guide ENGG1050 Engineering Design

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.

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 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

If you are a Global MBA student contact 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/.

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.