ENGG1050
Engineering Design
Session 1, In person-scheduled-weekday, North Ryde 2022
School of Engineering

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Notice
As part of Phase 3 of our return to campus plan, most units will now run tutorials, seminars and other small group activities on campus, and most will keep an online version available to those students unable to return or those who choose to continue their studies online.

To check the availability of face-to-face activities for your unit, please go to timetable viewer. To check detailed information on unit assessments visit your unit’s iLearn space or consult your unit convenor.
General Information

<table>
<thead>
<tr>
<th>Unit convenor and teaching staff</th>
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</thead>
<tbody>
<tr>
<td>Co-convenor</td>
</tr>
<tr>
<td>Simon Clark</td>
</tr>
<tr>
<td><a href="mailto:simon.clark@mq.edu.au">simon.clark@mq.edu.au</a></td>
</tr>
<tr>
<td>Contact via email</td>
</tr>
<tr>
<td>50 Waterloo Road, Level 2.</td>
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<td>09:00-17:00</td>
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</tbody>
</table>

| Co-convenor                      |
| Nicholas Tse                     |
| nicholas.tse@mq.edu.au           |
| Contact via email                |
| 50 Waterloo Road, Level 2.       |
| 09:00-17:00                      |

| 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://www.mq.edu.au/study/calendar-of-dates](https://www.mq.edu.au/study/calendar-of-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.

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**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 complete 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).

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**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>Weekly</td>
</tr>
<tr>
<td>A1. Professional development</td>
<td>20%</td>
<td>No</td>
<td>Week 12</td>
</tr>
<tr>
<td>A2. Technical Writing</td>
<td>15%</td>
<td>No</td>
<td>Week 8</td>
</tr>
<tr>
<td>A3. Periodic Quizzes</td>
<td>20%</td>
<td>No</td>
<td>Weeks 1,2,3,8,9 and 10.</td>
</tr>
<tr>
<td>A4. Project 1</td>
<td>18%</td>
<td>No</td>
<td>Week 13</td>
</tr>
<tr>
<td>A5. Project 2</td>
<td>27%</td>
<td>No</td>
<td>Week 13</td>
</tr>
</tbody>
</table>
A0. Attendance

Assessment Type ¹: Participatory task
Indicative Time on Task ²: 1 hours
Due: Weekly
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 ¹: Portfolio
Indicative Time on Task ²: 2 hours
Due: Week 12
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 ¹: Report
Indicative Time on Task ²: 5 hours
Due: Week 8
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 1: Quiz/Test
Indicative Time on Task 2: 2.5 hours
Due: Weeks 1, 2, 3, 8, 9 and 10.
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.

A4. Project 1
Assessment Type 1: Project
Indicative Time on Task 2: 2 hours
Due: Week 13
Weighting: 18%

The first of the two-small team-based project. Students are required to apply strategies learnt in this unit and apply hands on skills when required to work in a team-based 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.

A5. Project 2

Assessment Type: Project
Indicative Time on Task: 2 hours
Due: Week 13
Weighting: 27%

This is the second iteration of the project challenge. As a part of the learning process, students will be required to reflect over their first project challenge and apply new learning and improvement in this second iteration. Similar to the first project assessment which will include 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.

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

This unit is delivered online. It focuses on online working, professional development, and teamwork. These skills are developed during the delivery of a team project. Students need to complete all work assignments and attend a weekly student-led project team meeting prior to attending a weekly online 3-hour workshop. Students need a reliable internet connection, webcam, and microphone/speaker system to fully engage in the unit.

Unit Schedule

Refer to iLearn for full Unit Schedule.

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

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

The Writing Centre
The Writing Centre provides resources to develop your English language proficiency, academic writing, and communication skills.

• Getting help with your assignment
• Workshops
• Chat with a WriteWISE peer writing leader
• Access StudyWISE
• Upload an assignment to Studiosity
• Complete the 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
There is an error in this Unit Guide. Project 1 and Project 2 are in fact one project with deliverables of a video and presentation in Week 13. This is the same format as Session 2, 2021.