ENGG1050
Engineering Design
Session 2, Online-scheduled-weekday 2024

School of Engineering

Contents

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

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General Information

Unit convenor and teaching staff
Convenor
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Contact via 98509075
50 WR
during SGTA or email

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

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
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
To pass this unit, students must attend classes and SGTA sessions consistently and achieve a mark of 50 or more (resulting in a grade of P, CR, D, or HD). For more information about grading, please refer to the policies and procedures section.

Assessment Tasks

<table>
<thead>
<tr>
<th>Name</th>
<th>Weighting</th>
<th>Hurdle</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1. Practice Based Task</td>
<td>10%</td>
<td>No</td>
<td>Weekly</td>
</tr>
<tr>
<td>A2. Professional development</td>
<td>15%</td>
<td>No</td>
<td>W1 and W12</td>
</tr>
<tr>
<td>A3. Periodic Quizzes</td>
<td>20%</td>
<td>No</td>
<td>W1,W2,W3,W8,W9,W10</td>
</tr>
<tr>
<td>A4. Project</td>
<td>35%</td>
<td>No</td>
<td>Week 13</td>
</tr>
<tr>
<td>A5. Technical Writting</td>
<td>15%</td>
<td>No</td>
<td>Mid-Session Break</td>
</tr>
<tr>
<td>A6. Reflection</td>
<td>5%</td>
<td>No</td>
<td>W6 and W11</td>
</tr>
</tbody>
</table>

A1. Practice Based Task

Assessment Type 1: Practice-based task
Indicative Time on Task 2: 1 hours
Due: Weekly
Weighting: 10%

Students will demonstrate practice based skills and contribute to workshop activities throughout the session.

On successful completion you will be able to:
- Employ strategies to collaborate effectively with a team on solving an engineering problem.
A2. Professional development

Assessment Type 1: Portfolio
Indicative Time on Task 2: 2 hours
Due: W1 and W12
Weighting: 15%

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.

A3. Periodic Quizzes

Assessment Type 1: Quiz/Test
Indicative Time on Task 2: 2.5 hours
Due: W1, W2, W3, W8, W9, W10
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

Assessment Type 1: Project
Indicative Time on Task: 4 hours
Due: Week 13
Weighting: 35%

A 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. Technical Writing
Assessment Type: Report
Indicative Time on Task: 5 hours
Due: Mid-Session Break
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.

A6. Reflection
Assessment Type: Reflective Writing
Indicative Time on Task: 2 hours
Due: W6 and W11
Weighting: 5%
Reflective writing on transferable skills learnt. There will be two required submission at two-time points in the semester. Refer to iLearn for more information.

On successful completion you will be able to:

• Apply constructive techniques to reflect upon positive and negative experiences for personal and professional growth.

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 Writing Centre 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
ENGG1050 is the second unit in the Engineering Professional SPINE series, focused on developing essential professional and employability skills for engineers. This unit includes a significant project challenge and smaller tasks like quizzes to establish foundational engineering design process skills. Students will enhance their LinkedIn professional branding and technical communication through report writing. The unit’s essential learning outcomes are to evaluate engineering problems, communicate solutions professionally, collaborate effectively in teams via accountability, apply structured engineering design processes, and use reflective techniques for growth. Engagement will be primarily online via Zoom, with additional faculty support available.

Unit Schedule
Information will be provided 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
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

Academic Integrity

At Macquarie, we believe academic integrity – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free online writing and maths support, academic skills development and wellbeing consultations.

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.

- Workshops
- Chat with a WriteWISE peer writing leader
- Access StudyWISE
- Upload an assignment to Studiosity
- Complete the Academic Integrity Module

https://unitguides.mq.edu.au/unit_offers/163475/unit_guide/print
Student Services and Support

Macquarie University offers a range of Student Support Services including:

- IT Support
- Accessibility and disability support with study
- Mental health support
- Safety support to respond to bullying, harassment, sexual harassment and sexual assault
- Social support including information about finances, tenancy and legal issues
- Student Advocacy provides independent advice on MQ policies, procedures, and processes

Student Enquiries

Got a question? Ask us via AskMQ, or contact Service Connect.

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

Changes to class activities, teaching staff and addressed comments from LEUs.

Unit information based on version 2024.04 of the Handbook