ENGG3050

Engineering Leadership and Entrepreneurship

Session 1, In person-scheduled-weekday, North Ryde 2025

School of Engineering

Contents

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General Information

Unit convenor and teaching staff Darren Bagnall darren.bagnall@mq.edu.au
Credit points 10
Prerequisites ENGG2000 and ENGG2050
Corequisites
Co-badged status
Unit description The 5th SPINE unit aims to develop professional, transferable and employability skills. This unit deals with the skills required to effectively lead and manage an ill-defined engineering project. Students will be exposed to tools and concepts that are integral to the success of any engineering projects. Students will be able to perform the appropriate cost/benefit analysis and apply the appropriate risk mitigation techniques to ensure project success. Furthermore, students will be able to view all engineering projects and endeavours from a finance perspective and the ability to apply the appropriate priorities to balance societal benefits verses financial gains. Students will be able to apply these skills in managing any large-scaled multi-domain multi-disciplinary projects. Learning in this unit enhances student understanding of global challenges identified by the United Nations Sustainable Development Goals (UNSDGs) Decent Work and Economic Growth; Industry, Innovation and Infrastructure

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: Analyse and model engineering projects for feasibility using cost, benefit and efficiency perspectives.

ULO2: Applying management and leadership tools to effectively engage with the

relevant stakeholders of an engineering project.

ULO3: Explain and demonstrate ethical judgment and ethical practices.

ULO4: Apply appropriate tools to manage teams to ensure timely delivery of engineering outcomes.

ULO5: Communicate an engineering solution as a value proposition to relevant stakeholders.

Assessment Tasks

Name	Weighting	Hurdle	Due
Reflective writing	6%	No	Week 7 and Week 13
Online quizzes	30%	No	Weeks 4, 6, 8 and 10
Case study 2	17%	No	26/05/2025
Workshop Activities	10%	No	Weekly
In class presentation	20%	No	At some point during Weeks 9-13
Case study 1	17%	No	24/03/2025

Reflective writing

Assessment Type [1]: Reflective Writing
Indicative Time on Task [2]: 5 hours
Due: **Week 7 and Week 13**
Weighting: **6%**

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:

• Analyse and model engineering projects for feasibility using cost, benefit and efficiency perspectives.

• Explain and demonstrate ethical judgment and ethical practices.

Online quizzes

Assessment Type [1]: Quiz/Test
Indicative Time on Task [2]: 16 hours

Due: **Weeks 4, 6, 8 and 10**
Weighting: **30%**

5 online quizzes throughout session

On successful completion you will be able to:

- Analyse and model engineering projects for feasibility using cost, benefit and efficiency perspectives.
- Applying management and leadership tools to effectively engage with the relevant stakeholders of an engineering project.
- Explain and demonstrate ethical judgment and ethical practices.
- Apply appropriate tools to manage teams to ensure timely delivery of engineering outcomes.

Case study 2

Assessment Type [1]: Case study/analysis
Indicative Time on Task [2]: 10 hours
Due: **26/05/2025**
Weighting: **17%**

Case study on engineering entrepreneurship

On successful completion you will be able to:

- Analyse and model engineering projects for feasibility using cost, benefit and efficiency perspectives.
- Applying management and leadership tools to effectively engage with the relevant stakeholders of an engineering project.
- Explain and demonstrate ethical judgment and ethical practices.
- Communicate an engineering solution as a value proposition to relevant stakeholders.

Workshop Activities

Assessment Type [1]: Practice-based task
Indicative Time on Task [2]: 0 hours
Due: **Weekly**
Weighting: **10%**

Students will demonstrate their learning & skill by contributing to discussion and exercises in workshop activities. Indicative hours spent on assessment excludes scheduled workshop hours.

On successful completion you will be able to:

- Analyse and model engineering projects for feasibility using cost, benefit and efficiency perspectives.
- Applying management and leadership tools to effectively engage with the relevant stakeholders of an engineering project.
- Explain and demonstrate ethical judgment and ethical practices.
- Apply appropriate tools to manage teams to ensure timely delivery of engineering outcomes.
- Communicate an engineering solution as a value proposition to relevant stakeholders.

In class presentation

Assessment Type [1]: Presentation
Indicative Time on Task [2]: 14 hours
Due: **At some point during Weeks 9-13**
Weighting: **20%**

In class presentation on a given research topic

On successful completion you will be able to:

- Communicate an engineering solution as a value proposition to relevant stakeholders.

Case study 1

Assessment Type [1]: Case study/analysis
Indicative Time on Task [2]: 10 hours
Due: **24/03/2025**
Weighting: **17%**

Case study on engineering leadership

On successful completion you will be able to:

- Applying management and leadership tools to effectively engage with the relevant stakeholders of an engineering project.
- Explain and demonstrate ethical judgment and ethical practices.
- Apply appropriate tools to manage teams to ensure timely delivery of engineering outcomes.

[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

Information and Resources required for this unit will all be made available through ilearn. This includes a weekly on-line video lecture/briefing, a list of prescribed reading and other actions.

Engagment through the course will be realised in the SGTAs. In each facilitated SGTA you will work through assignments with your assigned group.

Policies and Procedures

Macquarie University policies and procedures are accessible from Policy Central (https://policie s.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
- Assessment Procedure
- Complaints Resolution 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/su pport/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.e du.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 connect.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 an d maths support, academic skills development and wellbeing consultations.

Student Support

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

Academic Success

Academic Success 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

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

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 the Service Connect Portal, 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 since First Published

Date	Description
17/02/2025	sorry, I realised a couple of submission dates needed changing

Unit information based on version 2025.03 of the Handbook