



ENGG8000

Professional Practice

Session 1, Weekday attendance, North Ryde 2021

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

Unit convenor and teaching staff

Lecturer

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Credit points

10

Prerequisites

Admission to MEngElecEng or MEngEnvSafetyEng or MEngMechEng or MEngNetTeleEng or MEngMgt

Corequisites

Co-badged status

Unit description

In this professional practice capstone unit students will work as teams of consulting engineers to provide an engineering solution to a real need or problem, and which addresses a Sustainable Development Goal (SDG). The teams may be multidisciplinary, as required by the nature of the project, and will source valuable exposure to an in-depth understanding of the problem, the relevant industry, and the socio-technical and other contexts in which the need or problem arose, and the engineered system or solution required. The teams will be expected to organise, plan, and perform all other tasks associated with good engineering practice, including discussion and reflection around the engineering problem and the engineering process. Individual and collective technical and professional competencies will be demonstrated through the production of a substantial report and presentation for consideration. An appreciation of the various contexts and factors impacting upon engineering practice will be developed.

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: Work productively in teams of professional engineers and objectively evaluate the performance of the team and of your individual peers.

ULO2: Effectively and professionally communicate engineering concepts in multiple modes to a range of audiences.

ULO3: Develop and deliver a professional engineering report, detailing the problem to be solved, the proposed problem solution, and critically evaluate the solution and the reasons why the solution was chosen or recommended.

ULO4: Examine and reflect on the socio-technical and other contexts in which engineering is practiced.

ULO5: Exercise advanced professional and self reflective practice.

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 below in the policies and procedures section. Late submissions and Resubmissions For assignments handed in late, the following penalties apply 0-48hrs: -50%, >48hrs: -100%. Extenuating circumstances will be considered upon lodgement of a formal notice of disruption of studies. Resubmissions of work are generally allowed unless stated prior or otherwise.

Assessment Tasks

Name	Weighting	Hurdle	Due
Portfolio	10%	No	Week 13
Peer evaluation	5%	No	Week 13
Final Report	30%	Yes	Week 12
Engineering Presentation	10%	No	Week 12
Progress Report	15%	No	Week 6
In session quizzes	30%	No	Weeks 2, 8, 10, 12

Portfolio

Assessment Type ¹: Portfolio

Indicative Time on Task ²: 12 hours

Due: **Week 13**

Weighting: **10%**

Students will contribute regularly to an individual portfolio, recording a summary of professional practice engagement activities. (Note: the portfolio should be updated regularly, as appropriate depending on the variety of tasks).

On successful completion you will be able to:

- Exercise advanced professional and self reflective practice.

Peer evaluation

Assessment Type ¹: Non-academic writing

Indicative Time on Task ²: 1 hours

Due: **Week 13**

Weighting: **5%**

Students will produce a peer evaluation. They will evaluate and provide feedback to, a group of their peers on one of the deliverable assessments. Assessment for this is based on the quality and constructive nature of the evaluation.

On successful completion you will be able to:

- Work productively in teams of professional engineers and objectively evaluate the performance of the team and of your individual peers.

Final Report

Assessment Type ¹: Report

Indicative Time on Task ²: 30 hours

Due: **Week 12**

Weighting: **30%**

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

Groups will produce a professional engineering report on the engineering solution to the chosen problem

On successful completion you will be able to:

- Work productively in teams of professional engineers and objectively evaluate the performance of the team and of your individual peers.
- Effectively and professionally communicate engineering concepts in multiple modes to a range of audiences.
- Develop and deliver a professional engineering report, detailing the problem to be solved, the proposed problem solution, and critically evaluate the solution and the reasons why the solution was chosen or recommended.
- Examine and reflect on the socio-technical and other contexts in which engineering is practiced.

Engineering Presentation

Assessment Type ¹: Presentation

Indicative Time on Task ²: 15 hours

Due: **Week 12**

Weighting: **10%**

Each group will provide a presentation of their engineering solution

On successful completion you will be able to:

- Work productively in teams of professional engineers and objectively evaluate the performance of the team and of your individual peers.
- Effectively and professionally communicate engineering concepts in multiple modes to a range of audiences.
- Develop and deliver a professional engineering report, detailing the problem to be solved, the proposed problem solution, and critically evaluate the solution and the reasons why the solution was chosen or recommended.
- Examine and reflect on the socio-technical and other contexts in which engineering is

practiced.

Progress Report

Assessment Type ¹: Report

Indicative Time on Task ²: 15 hours

Due: **Week 6**

Weighting: **15%**

A preliminary progress report outlining preliminary findings, a plan for the remaining work including individual roles within the team

On successful completion you will be able to:

- Work productively in teams of professional engineers and objectively evaluate the performance of the team and of your individual peers.
- Effectively and professionally communicate engineering concepts in multiple modes to a range of audiences.
- Examine and reflect on the socio-technical and other contexts in which engineering is practiced.

In session quizzes

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 14 hours

Due: **Weeks 2, 8, 10, 12**

Weighting: **30%**

A series of small quizzes to reflect on the foundation scaffolding learning materials supporting the design of a solution

On successful completion you will be able to:

- Examine and reflect on the socio-technical and other contexts in which engineering is practiced.
- Exercise advanced professional and self reflective practice.

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

Students in this unit will be formed into groups of six (6) to eight (8) students. Each group will work on delivering a presentation (video preferred) that pitches their socio-technical solution to a given problem. The problem is a real problem that affects Australians, and the solution must be practical within the context given. Groups will buddy work with other groups to improve their assessments. Individual contribution will be gauged through the use of the SPARKplus system.

Unit Schedule

Week	Lecture	Assessment Due	Quiz	Suggested Group work	SparkPlus
1	Unit Outline, Socio-technical Solution to a given problem. Must deliver a response to a tender. Must work in groups, SPARK+ to determine effort within group			Form Groups – group must be within SGTA. 6 members per group	
2	The design process – obtaining customer needs, preliminary design, conceptual design, final design Also note that there are “many design for...” possibilities and different industries will focus on one or a small number of these.		Quiz 1 – 5% (diagnostic quiz)		
3	How to work within a group? Teaming process (Tuckman's), Team Roles, Decision Making Process, Conflict and Conflict Resolution, Leadership and leadership Models.			Work on scoping document, Q & A with tutors	
4	Personality Profiles			Work on Draft Presentation – tutors will be available for questions and assistance	
5	Scoping Documents – Podcast, Q&A on new teaching styles and changes to the unit in lecture	Initial scoping document (buddy marked – formative) 26/8/2020		Present the scoping document (15 minutes each group, 3 groups)	Initial Dry Run
6	Reflective practices – why do professionals reflect on their actions?	Result for marking of Buddy document due 2/9/2020		Work on Final report – Tutors can be questioned about aspects if desired. Tutors can check on progress.	
7	Budgeting – prices from the web, OR Ball park estimates and “Indicative values” for items not available on the web.	Final scoping document – summative assessment (Progress report) 20% 9/9/ 2020			
	Mid Semester Break				
	Mid Semester Break				

8	Talk on Engineering Failures		Quiz 2 – 5% Scoping Documents, Reflections 30/9/2020		Active questioning
9	EA talk (EA Membership should be in portfolio)				
10	PA talk		Quiz 3 – 5% Budgeting, Society 14/ 10/2020		
11	Careers talk	Final report – buddy marked – formative assessment – return in 7 days 21/10/2020		Work on final report - due end of the Week	
12	Quality Talk	Review of Final Report 28/10/ 2020	Quiz 4 – 5% Summation of all topics 28/10/2020	Work on response to buddy final draft response, Work on Video	
13		Final Report – summative assessment – 30%. Engineering Presentation – 20% Presentation has to be a video, and may be shared with respective council. 4/11/2020		5 Min video presentation + 10 minutes Q&A	Active Questioning

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://policies.mq.edu.au\)](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 \(https://students.mq.edu.au/support/study/policies\)](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 \(https://policies.mq.edu.au\)](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/>

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 Services and 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.

Student Enquiries

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

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.