



ENGG8000

Professional Practice

Session 1, In person-scheduled-weekday, North Ryde 2023

School of Engineering

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General Information

Unit convenor and teaching staff

Unit Convenor

June Ho

june.ho@mq.edu.au

Contact via Via-email

School of Engineering, 50 Waterloo Road

By appointment via email

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

Requirements to Pass this Unit

Achieve a total mark equal to or greater than 50%, and

Achieve at least 50% in the final report.

Hurdle Assessments

In this professional practice unit, students must contribute to the group project and perform the work professionally. The final report is a hurdle requirement. A grade of 50 or more in the final report is a condition of passing this unit.

A continual contribution throughout the project timeline is required for the project assignment. Before the Assessment of the Final Report, students are given feedback on their contribution and performance. If no contribution or bad performance is recorded, students are permitted up to two opportunities for improvement.

Late Assessment Penalties

Penalties only apply to written assessments or recordings that are uploaded onto iLearn. They do NOT apply to weekly quizzes, time-sensitive or timetabled/scheduled assessments.

Late Assessment Submission Penalty

Unless a Special Consideration request has been submitted and approved, a 5% penalty (of the total possible mark of the task) will be applied for each day a written report or presentation assessment is not submitted, up until the 7th day (including weekends). After the 7th day, a grade of '0' will be awarded even if the assessment is submitted. The submission time for all uploaded assessments is 11:55 pm. A 1-hour grace period will be provided to students who experience a technical concern.

For any late submission of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, please apply for [Special Consideration](#).

Assessments where Late Submissions will be accepted

Final Report, Progress Report, Peer Evaluation, Portfolio – YES, Standard Late Penalty applies
Presentation, Quizzes, - NO, unless Special Consideration is Granted

Special Considerations

The [Special Consideration Policy](#) aims to support students who have been impacted by short-term circumstances or events that are serious, unavoidable and significantly disruptive, and which may affect their performance in assessment. If you experience circumstances or events that affect your ability to complete the assessments in this unit on time, please inform the convenor and submit a Special Consideration request through ask.mq.edu.au.

Assessment Activities

Assessment Criteria: rubrics

Submission of Assessments: Turnitin/ iLearn

Marking of Assessments: turn-around times of 1-2 weeks

Assessment Tasks

Name	Weighting	Hurdle	Due
Engineering Presentation	10%	No	Week 13
Final Report	30%	Yes	Week 13
Portfolio	10%	No	Week 13
In session quizzes	30%	No	Week 4,7,10
Peer evaluation	5%	No	Week 13
Progress Report	15%	No	Week 5

Engineering Presentation

Assessment Type ¹: Presentation

Indicative Time on Task ²: 15 hours

Due: **Week 13**

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.

Final Report

Assessment Type ¹: Report

Indicative Time on Task ²: 30 hours

Due: **Week 13**

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.

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.

In session quizzes

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 14 hours

Due: **Week 4,7,10**

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.

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.

Progress Report

Assessment Type ¹: Report

Indicative Time on Task ²: 15 hours

Due: **Week 5**

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.
-

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

Communication is made via your university email or through announcements on iLearn. Queries to convenors can either be placed on the iLearn discussion board or sent to unit convenor's email address.

For the latest information on the University's response to COVID-19, please refer to the Coronavirus infection page on the Macquarie website: <https://www.mq.edu.au/about/coronavirus-faqs>. Remember to check this page regularly in case the information and requirements change during semester. If there are any changes to this unit in relation to COVID, these will be communicated via iLearn.

Unit Schedule

Please refer to iLearn.

Classes and tutorials start in week 1.

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](#)
- [Assessment Procedure](#)
- [Complaints Resolution Procedure for Students and Members of the Public](#)

- [Special Consideration Policy](#)

Students seeking more policy resources can visit [Student Policies \(https://students.mq.edu.au/support/study/policies\)](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

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](#)

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 [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

New topics (Ethics and Research Skills for non-research students).

Engineers Australia Competency Mapping

EA Competency Standard		Unit Learning Outcomes
Knowledge and Skill Base	1.1 Comprehensive, theory-based understanding of the underpinning fundamentals applicable to the engineering discipline.	
	1.2 Conceptual understanding of underpinning maths, analysis, statistics, computing.	
	1.3 In-depth understanding of specialist bodies of knowledge	
	1.4 Discernment of knowledge development and research directions	
	1.5 Knowledge of engineering design practice	

	1.6 Understanding of scope, principles, norms, accountabilities of sustainable engineering practice.	
Engineering Application Ability	2.1 Application of established engineering methods to complex problem solving	ULO3
	2.2 Fluent application of engineering techniques, tools and resources.	ULO3
	2.3 Application of systematic engineering synthesis and design processes.	ULO3
	2.4 Application of systematic approaches to the conduct and management of engineering projects.	ULO3
Professional and Personal Attributes	3.1 Ethical conduct and professional accountability.	ULO4
		ULO5
	3.2 Effective oral and written communication in professional and lay domains.	ULO2
		ULO4
	3.3 Creative, innovative and pro-active demeanour.	ULO4
		ULO5
	3.4 Professional use and management of information.	
3.5 Orderly management of self, and professional conduct.	ULO1	
3.6 Effective team membership and team leadership	ULO1	