



ENGG8102

Engineering Management Capstone

Session 2, In person-scheduled-weekday, North Ryde 2022

School of Engineering

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Disclaimer

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General Information

Unit convenor and teaching staff

Unit Convenor

June Ho

june.ho@mq.edu.au

Contact via Via-email

By appointment

Credit points

10

Prerequisites

60cp at 4000 level or above

Corequisites

Co-badged status

Unit description

This capstone unit provides a platform for the students to apply comprehensive understanding of engineering management considering different aspects throughout a project life cycle. The unit is designed to cover the duties and deliverables of engineering managers from the project's initiation to successful completion. Students are expected to apply their acquired knowledge and skills into designing real-life medium to large scale engineering projects. Students will be able to implement advanced engineering management knowledge considering an interdisciplinary approach relevant to all fields of engineering practice.

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: Apply acquired analytical and theoretical knowledge to the design and implementation of engineering projects

ULO2: Identify the responsibilities and deliverables of engineering managers from the project's initiation to successful completion.

ULO3: Compare different project delivery methods, assess the associated risks, and follow standard procedures for risk mitigation.

ULO4: Estimate project timelines and scheduling resources within required budgets.

ULO5: Evaluate progress and performance, and take necessary measures for optimum output.

General Assessment Information

Grading and passing requirements 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.

If you receive special consideration for the final exam, a supplementary exam will be scheduled by the faculty during a supplementary exam period, typically about 3 to 4 weeks after the normal exam period. By making a special consideration application for the final exam you are declaring yourself available for a resit during the supplementary examination period and will not be eligible for a second special consideration approval based on pre-existing commitments. Please ensure you are familiar with the policy prior to submitting an application. Approved applicants will receive an individual notification one week prior to the exam with the exact date and time of their supplementary examination.

Late Submission

From 1 July 2022, Students enrolled in Session based units with written assessments will have the following university standard late penalty applied. Please see <https://students.mq.edu.au/study/assessment-exams/assessments> for more information.

Unless a Special Consideration request has been submitted and approved, a 5% penalty (of the total possible mark) will be applied each day a written 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. Submission time for all written assessments is set at 11:55 pm. A 1-hour grace period is 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, students need to submit an application for [Special Consideration](#).

Assessment Tasks

Name	Weighting	Hurdle	Due
Progress report 1	25%	No	Week 4
Progress report 2	20%	No	Week 7
Progress report 3	25%	No	Week 11
Final presentation	15%	No	Week 13

Name	Weighting	Hurdle	Due
Final report	15%	No	Week 13

Progress report 1

Assessment Type ¹: Report

Indicative Time on Task ²: 45 hours

Due: **Week 4**

Weighting: **25%**

Written report on the chosen topic with conceptual design and project planning.

On successful completion you will be able to:

- Apply acquired analytical and theoretical knowledge to the design and implementation of engineering projects
- Identify the responsibilities and deliverables of engineering managers from the project's initiation to successful completion.
- Compare different project delivery methods, assess the associated risks, and follow standard procedures for risk mitigation.
- Estimate project timelines and scheduling resources within required budgets.
- Evaluate progress and performance, and take necessary measures for optimum output.

Progress report 2

Assessment Type ¹: Report

Indicative Time on Task ²: 25 hours

Due: **Week 7**

Weighting: **20%**

Written report on preliminary design with the desired system functions and a development specification.

On successful completion you will be able to:

- Apply acquired analytical and theoretical knowledge to the design and implementation of engineering projects
- Identify the responsibilities and deliverables of engineering managers from the project's

initiation to successful completion.

- Compare different project delivery methods, assess the associated risks, and follow standard procedures for risk mitigation.
- Estimate project timelines and scheduling resources within required budgets.
- Evaluate progress and performance, and take necessary measures for optimum output.

Progress report 3

Assessment Type ¹: Report

Indicative Time on Task ²: 35 hours

Due: **Week 11**

Weighting: **25%**

Written report on detail design with a comprehensive evaluation of the systems logistical, maintenance and support requirements, as well as recommendations

On successful completion you will be able to:

- Apply acquired analytical and theoretical knowledge to the design and implementation of engineering projects
- Identify the responsibilities and deliverables of engineering managers from the project's initiation to successful completion.
- Compare different project delivery methods, assess the associated risks, and follow standard procedures for risk mitigation.
- Estimate project timelines and scheduling resources within required budgets.
- Evaluate progress and performance, and take necessary measures for optimum output.

Final presentation

Assessment Type ¹: Presentation

Indicative Time on Task ²: 10 hours

Due: **Week 13**

Weighting: **15%**

Each group will provide a presentation of their engineering project.

On successful completion you will be able to:

- Apply acquired analytical and theoretical knowledge to the design and implementation of

engineering projects

- Identify the responsibilities and deliverables of engineering managers from the project's initiation to successful completion.
- Compare different project delivery methods, assess the associated risks, and follow standard procedures for risk mitigation.
- Estimate project timelines and scheduling resources within required budgets.
- Evaluate progress and performance, and take necessary measures for optimum output.

Final report

Assessment Type ¹: Report

Indicative Time on Task ²: 20 hours

Due: **Week 13**

Weighting: **15%**

Final written report on group project.

On successful completion you will be able to:

- Apply acquired analytical and theoretical knowledge to the design and implementation of engineering projects
- Identify the responsibilities and deliverables of engineering managers from the project's initiation to successful completion.
- Compare different project delivery methods, assess the associated risks, and follow standard procedures for risk mitigation.
- Estimate project timelines and scheduling resources within required budgets.
- Evaluate progress and performance, and take necessary measures for optimum output.

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

A Guide to the Engineering Management Body of Knowledge (5th ed 2019 EMBOK). H. Shah,

W. Nowocin, and A. S. o. M. Engineers, The Guide to the Engineering Management Body of Knowledge, 5th Ed. American Society for Engineering Management, 2019.

Unit Schedule

Refer to iLearn and lecture notes for the unit schedule.

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](#)
- [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 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

N/A

Engineers Australia Competency Mapping

N/A