



# ENGG8102

## Engineering Management Capstone

Session 2, Weekday attendance, North Ryde 2021

*School of Engineering*

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#### Disclaimer

Macquarie University has taken all reasonable measures to ensure the information in this publication is accurate and up-to-date. However, the information may change or become out-dated as a result of change in University policies, procedures or rules. The University reserves the right to make changes to any information in this publication without notice. Users of this publication are advised to check the website version of this publication [or the relevant faculty or department] before acting on any information in this publication.

#### Session 2 Learning and Teaching Update

The decision has been made to conduct study online for the remainder of Session 2 for all units WITHOUT mandatory on-campus learning activities. Exams for Session 2 will also be online where possible to do so.

This is due to the extension of the lockdown orders and to provide certainty around arrangements for the remainder of Session 2. We hope to return to campus beyond Session 2 as soon as it is safe and appropriate to do so.

Some classes/teaching activities cannot be moved online and must be taught on campus. You should already know if you are in one of these classes/teaching activities and your unit convenor will provide you with more information via iLearn. If you want to confirm, see the list of [units with mandatory on-campus classes/teaching activities](#).

Visit the [MQ COVID-19 information page](#) for more detail.

## General Information

Unit convenor and teaching staff

Lecturer

June Ho

[june.ho@mq.edu.au](mailto:june.ho@mq.edu.au)

Contact via Email

50 Waterloo

By appointment via email

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 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 lodgment of a formal notice of disruption of studies.

Resubmissions of work are not allowed (unless stated prior or otherwise).

## Assessment Tasks

Name	Weighting	Hurdle	Due
<a href="#">Progress report 1</a>	25%	No	Week 5
<a href="#">Progress report 2</a>	20%	No	Week 8
<a href="#">Progress report 3</a>	25%	No	Week 11
<a href="#">Final report</a>	15%	No	Week 13
<a href="#">Final presentation</a>	15%	No	Week 13

### Progress report 1

Assessment Type <sup>1</sup>: Report

Indicative Time on Task <sup>2</sup>: 45 hours

Due: **Week 5**

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 <sup>1</sup>: Report

Indicative Time on Task <sup>2</sup>: 25 hours

Due: **Week 8**

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 <sup>1</sup>: Report

Indicative Time on Task <sup>2</sup>: 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 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.

## 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.

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<sup>1</sup> 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.

<sup>2</sup> 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](#)
- [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](http://ask.mq.edu.au) or if you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto: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](http://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](http://ask.mq.edu.au)

If you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto: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/](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

Not applicable (first time).