



ENGG4104

Engineering Contracts and Procurement

Session 1, Online-scheduled-weekday 2023

School of Engineering

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General Information

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Credit points

10

Prerequisites

Admission to MEngMgt or ((ENGG3000 or ENGG300) and ENGG3050)

Corequisites

Co-badged status

Unit description

This unit will provide students with learning modules about structuring and commissioning engineering contracts to deliver and procure engineering outcomes. Students will develop a working knowledge of contract administration and build a fundamental understanding of commercial engineering contracts and procurement. The unit is designed to cover all engineering disciplines across different stages of the career.

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: Evaluate the commercial viability of engineering projects and decide an appropriate procurement strategy for a particular project.

ULO2: Interpret the scope and meaning of contract documents for the delivery of engineering projects.

ULO3: Analyse and assess tenders, articulate fundamental knowledge of contract law, identify potential risks associated with the engineering projects.

ULO4: Conduct cost estimation and tendering processes from a Contractors perspective.

General Assessment Information

Case study

Assessment Type ¹: Case study/analysis

Indicative Time on Task ²: 12 hours

Due: **Weeks 2, 4, 6, 8, and 10**

Weighting: **20%**

Case study on engineering procurement

On successful completion you will be able to:

- Evaluate the commercial viability of engineering projects and decide an appropriate procurement strategy for a particular project.
- Interpret the scope and meaning of contract documents for the delivery of engineering projects.
- Analyse and assess tenders, articulate fundamental knowledge of contract law, identify potential risks associated with the engineering projects.

Final Project

Assessment Type ¹: Project

Indicative Time on Task ²: 30 hours

Due: **Week 13**

Weighting: **40%**

Final project report based on Engineering procurement principles

On successful completion you will be able to:

- Evaluate the commercial viability of engineering projects and decide an appropriate procurement strategy for a particular project.
- Interpret the scope and meaning of contract documents for the delivery of engineering projects.
- Analyse and assess tenders, articulate fundamental knowledge of contract law, and identify potential risks associated with the engineering projects.

- Conduct cost estimation and tendering processes from a Contractors perspective

Midterm group project

Assessment Type ¹ : Project

Indicative Time on Task ² : 14 hours

Due: **Week 7**

Weighting: **30%**

Group project based on procurement case scenario

On successful completion you will be able to:

- Evaluate the commercial viability of engineering projects and decide an appropriate procurement strategy for a particular project.
- Interpret the scope and meaning of contract documents for the delivery of engineering projects.
- Analyse and assess tenders, articulate fundamental knowledge of contract law, and identify potential risks associated with the engineering projects.
- Conduct cost estimation and tendering processes from a Contractors perspective.

Active Engagement

Assessment Type ¹: Participatory task

Indicative Time on Task ²: 6 hours

Due: **Week 1 to 12**

Weighting: **10%**

Participation marks for attending and contributing in tutorials

On successful completion you will be able to:

- Evaluate the commercial viability of engineering projects and decide an appropriate procurement strategy for a particular project.
- Interpret the scope and meaning of contract documents for the delivery of engineering projects.
- Analyse and assess tenders, articulate fundamental knowledge of contract law, and identify potential risks associated with the engineering projects.
- Conduct cost estimation and tendering processes from a Contractors perspective.

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 Learning Skills Unit 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.

Assessment Tasks

Name	Weighting	Hurdle	Due
Final Project	40%	No	Week 13
Case study	20%	No	Weeks 2, 4, 6, 8, and 10
Midterm group project	30%	No	Week 7
Active Engagement	10%	No	Weeks 1 to 12

Final Project

Assessment Type ¹: Project

Indicative Time on Task ²: 30 hours

Due: **Week 13**

Weighting: **40%**

Final project report based on Engineering procurement principles

On successful completion you will be able to:

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Assessment Type ¹: Case study/analysis

Indicative Time on Task ²: 12 hours

Due: **Weeks 2, 4, 6, 8, and 10**

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Case study on engineering procurement

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Midterm group project

Assessment Type ¹: Project

Indicative Time on Task ²: 14 hours

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Weighting: **30%**

Group project based on procurement case scenario

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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

Primary Text: 1. Procurement Principles and Management: Baily, Farmer, Crocker, Jessop, Jones, Pearson Publication, ISBN 9781292016016 2. Engineers Procurement Manual for Major Plant Equipment: Robert Leeser, Prentice Hall Publication, ISBN 0-13-294711-0

Unit Schedule

Week	Lecture /Content / Topic	Chapter Ref	HBR Case Study
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1	The Procurement function and its role in a business. Measurement of Procurement Success, KPI's	Chapter 1 Bailey et al	Boeing Australia Assessing the merits of implementing an eProcurement System
2	Strategic Procurement and Supply Chain Management.	Chapter 2 Bailey et al	
3	Price and total cost of ownership (TCO)	Chapter 9 Bailey et al	Meisterclean – Turning Supply chain into competitive advantage
4	Preparation of procurement requirements. Compiling the contract conditions, developing commercial terms. Preparing technical specifications	Ch 3, 5, 6, 7, 8, & 9 Leeser	
5	Selection of suppliers. Bidding process.	Ch 10, 11, & 12 Leeser	Building Deep Supplier Relationships
6	Sourcing Strategies and Relationships Assignment 1 due	Chapter 8 Bailey et al	
7	Project Procurement and Risk	Chapter 11 Bailey et al	Boeing Strategic Initiative RM Supply Chain Risk
8	Contract Management	Chapter 19 Bailey et al	Within Slides
9	Government Projects – <u>Guest Lecturer</u> <u>Dermot Thompson</u>		
10	Quality Management	Chapter 5 Bailey et al	Quality Management in the oil industry: How BP greases its machinery for frictionless sourcing.

11	Inventory Management	Chapter 6 Bailey et al	
12	Capital Procurement	Chapter 14 Bailey et al	
13	Review Assignment 2 due		

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 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

Guest lecturers are dependent on their availability.

EA Competency

Master of Engineering Management is not accredited by EA and therefore not applicable.