



# CIVL3401

## Construction Management

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

*School of Engineering*

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## General Information

Unit convenor and teaching staff

Convenor

Simon Clark

[simon.clark@mq.edu.au](mailto:simon.clark@mq.edu.au)

Contact via [simon.clark@mq.edu.au](mailto:simon.clark@mq.edu.au)

50 Waterloo Road

2pm-5pm

Convenor

June Ho

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

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

50 Waterloo Road

10am - 12pm

Credit points

10

Prerequisites

130cp at 1000 level or above and CIVL1001

Corequisites

Co-badged status

Unit description

The objective of this unit is to provide the required knowledge to address effective planning, organising, application, coordination, monitoring, control and reporting at different stages of construction projects. The unit helps the student to become familiar with the concepts of modern construction management which include sustainable, environmentally friendly and economic construction processes. Specific topics include project management (planning techniques, workforce motivation, project cost control, management of equipment), business management (project procurement, estimating and tendering, competitive bidding, company budgetary control, economic assessment), and administration and company management (company organisation, market planning and business development, construction logistics and risks, information resources).

## 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:** Demonstrate in-depth understanding of modern construction management

**ULO2:** Identify and compare different project delivery methods and assess the associated risks

**ULO3:** Estimate different construction timelines and required budgets

**ULO4:** Explain estimating and tendering principles and practice in different construction projects

**ULO5:** Differentiate and explain different contractual arrangements in the construction industry

## General Assessment Information

### 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 to the policies and procedures section.

#### Late Assessment Submission Penalty

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. **You should contact your convenor for any anticipated issues that might prevent you from a timely submission of work.**

Re-submission for any submitted and/or graded work will not be allowed.

Late submission will require justification via an approved [Special Consideration](#) process, if not late penalty procedure will be followed.

Your assessments are a key element in your learning process. [Find out about the types of assessments you may need to complete at Macquarie.](#)

## Assessment Tasks

| Name   | Weighting | Hurdle | Due            |
|--|-----------|--------|----------------|
| <a href="#">Final Exam</a>                       | 30%       | No     | Exam period    |
| <a href="#">Bid preparation and presentation</a> | 40%       | No     | W13            |
| <a href="#">Weekly Quiz</a>                      | 10%       | No     | W1 through W12 |
| <a href="#">Preliminary Design Report</a>        | 20%       | No     | W7             |

### Final Exam

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

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

Due: **Exam period**

Weighting: **30%**

Final exam during the exam period

On successful completion you will be able to:

- Demonstrate in-depth understanding of modern construction management
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### Bid preparation and presentation

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

Indicative Time on Task <sup>2</sup>: 30 hours

Due: **W13**

Weighting: **40%**

This is part of a group project on the construction management of different civil engineering infrastructures. Groups of 3-4 students work on the project defined by the convener, and provide a final report and presentation. Peer assessment by the students in the group and interview by the lecturer with all group members are considered to assess the individual student's contribution. Regular formative feedback is provided on group and individual progress against the learning outcomes. This part of the project assessment has a weight of 40% which includes 10%

final presentation and 30% final report.

On successful completion you will be able to:

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## Weekly Quiz

Assessment Type <sup>1</sup>: Quiz/Test

Indicative Time on Task <sup>2</sup>: 6.5 hours

Due: **W1 through W12**

Weighting: **10%**

These weekly quizzes are paired with the lecture for the week and provide an opportunity for students and staff to assess individual student progress toward attaining the final learning outcomes.

On successful completion you will be able to:

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## Preliminary Design Report

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

Indicative Time on Task <sup>2</sup>: 16.5 hours

Due: **W7**

Weighting: **20%**

This is in preparation for the group project on the construction management of different civil engineering infrastructures. Teams of 3-4 students prepare a Preliminary Design Report based on a specification from a "client". Peer assessment by the students in the group and observation by the lecturer of all group members is used to assess the individual student's contribution.

Regular formative feedback is provided for team and individual progress against project milestones. This assessment has a weight of 10%.

On successful completion you will be able to:

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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

This unit is designed and largely delivered by industry practitioners. The unit consists of a series of slide decks with associated quizzes, podcasts by industry practitioners, a project and final exam. The project is designed to allow the practice of the techniques described in the slide decks together with practical experience of using Civil3d and Microsoft Project. The project builds upon work completed in previous units. The convenors and tutors will be available during the weekly workshops to mentor students and give advice on project completion.

## Unit Schedule

**Week 1: Overview of the construction industry**

**Week 2: Construction Management Functions (Quiz 1)**

**Week 3: Scheduling Techniques (Quiz 2)**

**Week 4: Cost Estimation 1 (Quiz 3)**

**Week 5: Cost Estimation 2 (Quiz 4)**

**Week 6: Contracts and Contract Administration (Quiz 5)**

**Week 7: Construction finance and cash flow analysis (Quiz 6, Design Report and Presentation)**

**Week 8: Construction Equipment (Quiz 7)**

**Week 9: Building Materials (Quiz 8)**

**Week 10: Building Construction Methods (Quiz 9)**

**Week 11: Quality**

**Week 12: Trends (Quiz 10)**

**Week 13: Sustainable Construction (Final Bid and Presentation0)**

## 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](https://ask.mq.edu.au) or if you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto: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/](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 Unit this session.