



# CIVL3201

## Transport Engineering

Session 1, In person-scheduled-weekday, North Ryde 2022

*School of Engineering*

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## General Information

Unit convenor and teaching staff

Convenor

Golnaz Alipour Esgandani

[golnaz.alipour@mq.edu.au](mailto:golnaz.alipour@mq.edu.au)

Contact via vi email

Level 1, 50 Waterloo Road

By arrangement

Credit points

10

Prerequisites

130cp at 1000 level or above and CIVL1001

Corequisites

Co-badged status

Unit description

This unit provides students with an introduction to transportation and road engineering. It aims to develop skills that are fundamental for civil engineers undertaking typical traffic and transport investigations, and design of transport systems and roads. The first part of the unit focuses on transport planning, economics of transport, and traffic engineering. The second part of the unit is about road engineering including road design standards, geometric design of roads, and maintenance strategies. This unit prepares students to develop fundamental knowledge required for Geotechnical and Transportation Project unit.

## 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 a fundamental knowledge of transportation systems and traffic flow theories

**ULO2:** Design a transportation system including intersections and signals using traffic flow concepts

**ULO3:** Demonstrate a good understanding of road and pavement design, road safety

and maintenance strategies, and environmental issues associated with roads

**ULO4:** Apply road design standards in the design and construction of roads and identify factors affecting system operations

## General Assessment Information

### Grading and passing requirement for unit

There are weekly problem sets, the mid session test and a final exam that need to be completed for assessment. 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

Online quizzes, in-class activities, or scheduled tests and exam must be undertaken at the time indicated in the unit guide. Should these activities be missed due to illness or misadventure, students may apply for Special Consideration.

All other assessments must be submitted by 5:00 pm (Sydney Time) on their due date.

Should these assessments be missed due to illness or misadventure, students should apply for Special Consideration.

Assessments not submitted by the due date will receive a mark of zero.

Resubmission of work is not permitted

## Assessment Tasks

Name	Weighting	Hurdle	Due
<a href="#">Mid session test</a>	30%	No	Week 7
<a href="#">Invigilated Final Examination</a>	50%	No	TBA
<a href="#">Problem sets</a>	20%	No	Each Week

### Mid session test

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

Indicative Time on Task <sup>2</sup>: 12 hours

Due: **Week 7**

Weighting: **30%**

Mid session test

On successful completion you will be able to:

- Demonstrate a fundamental knowledge of transportation systems and traffic flow theories
- Design a transportation system including intersections and signals using traffic flow concepts

## Invigilated Final Examination

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

Indicative Time on Task <sup>2</sup>: 20 hours

Due: **TBA**

Weighting: **50%**

Invigilated Final Examination

On successful completion you will be able to:

- Demonstrate a fundamental knowledge of transportation systems and traffic flow theories
- Design a transportation system including intersections and signals using traffic flow concepts
- Demonstrate a good understanding of road and pavement design, road safety and maintenance strategies, and environmental issues associated with roads
- Apply road design standards in the design and construction of roads and identify factors affecting system operations

## Problem sets

Assessment Type <sup>1</sup>: Problem set

Indicative Time on Task <sup>2</sup>: 26 hours

Due: **Each Week**

Weighting: **20%**

Weekly problem sets

On successful completion you will be able to:

- Demonstrate a fundamental knowledge of transportation systems and traffic flow

theories

- Design a transportation system including intersections and signals using traffic flow concepts
- Demonstrate a good understanding of road and pavement design, road safety and maintenance strategies, and environmental issues associated with roads
- Apply road design standards in the design and construction of roads and identify factors affecting system operations

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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

Lecture and practical sessions start in Week 1.

All in-person students need to be on campus in week 1. If you are an in-person student and are unable to be on campus for the start of week 1 please contact the unit convenor urgently.

As practicals are face to face, students who are not able to be on campus in week 1 should contact unit convenor urgently.

## 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](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)

## 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.

## 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	ULO1, ULO3
	1.4 Discernment of knowledge development and research directions	
	1.5 Knowledge of engineering design practice	ULO1, ULO3
	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	ULO2
	2.2 Fluent application of engineering techniques, tools and resources.	ULO2, ULO4

	2.3 Application of systematic engineering synthesis and design processes.	ULO2, ULO4
	2.4 Application of systematic approaches to the conduct and management of engineering projects.	ULO4
Professional and Personal Attributes	3.1 Ethical conduct and professional accountability.	
	3.2 Effective oral and written communication in professional and lay domains.	
	3.3 Creative, innovative and pro-active demeanour.	
	3.4 Professional use and management of information.	
	3.5 Orderly management of self, and professional conduct.	
	3.6 Effective team membership and team leadership	