



ENGG8990

Master of Research - Engineering

Session 2, In person-scheduled-weekday, North Ryde 2026

School of Engineering

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General Information

Unit convenor and teaching staff

Unit Convener

Bandita Mainali

bandita.mainali@mq.edu.au

Contact via bandita.mainali@mq.edu.au

Room 309, 9 Wally's Walk

Appointment via email

Credit points

80

Prerequisites

Corequisites

Co-badged status

Unit description

The Master of Research is undertaken as a single unit. The thesis together with four core research activities form a single coherent research program based on individual research plans and will consist of the following:

1. Research Frontiers: You will attend a number of school or faculty-run sessions and engage in a program of activities developing your knowledge of the sub-disciplinary field in which you want to situate your own research, and develop your own presentation skills;
2. Literature Review: You will learn how researchers in your field engage with previous research literature, and produce a draft of your own literature review for your thesis;
3. Research Methods: With other students and led by academic staff, you will develop the research methods you will use in your research project;
4. Research Planning: Through individual work with your supervision team, you will develop a plan for a large-scale research project, part of which will be completed in the MRes; and
5. Thesis: You will complete a small research project and write it up in an externally examined thesis. Following examination, you will revise your thesis to address comments provided by examiners.

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 critical and integrative thinking to develop research questions within your discipline through scholarly investigation of currently available evidence.

ULO2: Communicate a coherent and sustained argument in relation to your research outcomes to specialist and non-specialist audiences.

ULO3: Employ integrity and ethical conduct in research as a socially and culturally responsible researcher.

ULO4: Plan and execute a research project to contribute knowledge to your discipline.

ULO5: Demonstrate expert judgement, adaptability and accountability in your professional practice as an independent researcher.

ULO6: Apply high-level cognitive, creative and technical skills to generate and evaluate complex ideas and concepts.

General Assessment Information

To pass this unit you need to:

- Participate in and undertake all hurdle activities.
- Achieve approval status from examiners on the quality of thesis.

Unless a special consideration request has been submitted and approved, 1 mark penalty will be applied for each day the thesis is not submitted by the EWS date. Check the email from GRA and/or your offer letter to find your EWS date and time.

The submission time for all other uploaded assessments is 11:55pm. A 1-hour grace period will be provided to students who experience technical difficulties. For any late submission of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, please apply for Special Consideration.

Assessments where Late Submissions will be accepted

- Thesis– YES, Standard Late Penalty applies
- Research methods - NO, unless Special Consideration is Granted
- Literature review - NO, unless Special Consideration is Granted
- Poster presentation - NO, unless Special Consideration is Granted
- Research planning - NO, unless Special Consideration is Granted

Assessment Tasks

Name	Weighting	Hurdle	Due	Groupwork/Individual	Short Extension	AI Approach
Poster presentation	10%	Yes	Jan 30 2027	Individual	No	Open AI
Research methods	0%	Yes	Nov 30 2026	Individual	No	Observed
Weekly colloquia	0%	No	30/01/2027	Individual	No	Observed
Research planning	0%	Yes	Oct 30 2026	Individual	No	Observed
Literature review	0%	Yes	Aug 30 2026	Individual	No	Open AI
Thesis	90%	Yes	Check the offer letter for the EWS date	Individual	No	Open AI

Poster presentation

Assessment Type ¹: Professional task

Indicative Time on Task ²: 20 hours

Due: **Jan 30 2027**

Weighting: **10%**

Groupwork/Individual: Individual

Short extension ³: No

AI Approach: Open AI

This is a hurdle assessment task (see [assessment policy](#) for more information on hurdle assessment tasks)

You will prepare a poster presentation explaining your current research

On successful completion you will be able to:

- Apply critical and integrative thinking to develop research questions within your discipline through scholarly investigation of currently available evidence.
- Communicate a coherent and sustained argument in relation to your research outcomes to specialist and non-specialist audiences.
- Employ integrity and ethical conduct in research as a socially and culturally responsible researcher.
- Plan and execute a research project to contribute knowledge to your discipline.
- Demonstrate expert judgement, adaptability and accountability in your professional

practice as an independent researcher.

- Apply high-level cognitive, creative and technical skills to generate and evaluate complex ideas and concepts.

Research methods

Assessment Type ¹: Practice-based task

Indicative Time on Task ²: 20 hours

Due: **Nov 30 2026**

Weighting: **0%**

Groupwork/Individual: Individual

Short extension ³: No

AI Approach: Observed

This is a hurdle assessment task (see [assessment policy](#) for more information on hurdle assessment tasks)

You will demonstrate your understanding and skills in appropriate research methodologies, and that you are able to critically analyse their use in comparison with alternative methods.

On successful completion you will be able to:

- Apply critical and integrative thinking to develop research questions within your discipline through scholarly investigation of currently available evidence.
- Communicate a coherent and sustained argument in relation to your research outcomes to specialist and non-specialist audiences.
- Employ integrity and ethical conduct in research as a socially and culturally responsible researcher.
- Plan and execute a research project to contribute knowledge to your discipline.
- Demonstrate expert judgement, adaptability and accountability in your professional practice as an independent researcher.
- Apply high-level cognitive, creative and technical skills to generate and evaluate complex ideas and concepts.

Weekly colloquia

Assessment Type ¹: Practice-based task

Indicative Time on Task ²: 0 hours

Due: **30/01/2027**

Weighting: **0%**

Groupwork/Individual: Individual

Short extension ³: No

AI Approach: Observed

You will engage in discipline-specific seminars and colloquia as appropriate

On successful completion you will be able to:

- Communicate a coherent and sustained argument in relation to your research outcomes to specialist and non-specialist audiences.
- Employ integrity and ethical conduct in research as a socially and culturally responsible researcher.
- Demonstrate expert judgement, adaptability and accountability in your professional practice as an independent researcher.
- Apply high-level cognitive, creative and technical skills to generate and evaluate complex ideas and concepts.

Research planning

Assessment Type ¹: Professional task

Indicative Time on Task ²: 14 hours

Due: **Oct 30 2026**

Weighting: **0%**

Groupwork/Individual: Individual

Short extension ³: No

AI Approach: Observed

This is a hurdle assessment task (see [assessment policy](#) for more information on hurdle assessment tasks)

You will learn to manage and plan a major research project. You will submit a brief project plan & budget

On successful completion you will be able to:

- Apply critical and integrative thinking to develop research questions within your discipline through scholarly investigation of currently available evidence.
- Plan and execute a research project to contribute knowledge to your discipline.
- Apply high-level cognitive, creative and technical skills to generate and evaluate complex ideas and concepts.

Literature review

Assessment Type ¹: Written Submission

Indicative Time on Task ²: 20 hours

Due: **Aug 30 2026**

Weighting: **0%**

Groupwork/Individual: Individual

Short extension ³: No

AI Approach: Open AI

This is a hurdle assessment task (see [assessment policy](#) for more information on hurdle

assessment tasks)

You will collate and understand the background literature for your chosen project and produce a written report which will inform your thesis.

On successful completion you will be able to:

- Apply critical and integrative thinking to develop research questions within your discipline through scholarly investigation of currently available evidence.
- Communicate a coherent and sustained argument in relation to your research outcomes to specialist and non-specialist audiences.
- Employ integrity and ethical conduct in research as a socially and culturally responsible researcher.
- Demonstrate expert judgement, adaptability and accountability in your professional practice as an independent researcher.
- Apply high-level cognitive, creative and technical skills to generate and evaluate complex ideas and concepts.

Thesis

Assessment Type ¹: Written Submission

Indicative Time on Task ²: 200 hours

Due: **Check the offer letter for the EWS date**

Weighting: **90%**

Groupwork/Individual: Individual

Short extension ³: No

AI Approach: Open AI

This is a hurdle assessment task (see [assessment policy](#) for more information on hurdle assessment tasks)

You will complete an individual research project, for which you will write a single coherent thesis which is examined externally.

On successful completion you will be able to:

- Apply critical and integrative thinking to develop research questions within your discipline through scholarly investigation of currently available evidence.
- Communicate a coherent and sustained argument in relation to your research outcomes to specialist and non-specialist audiences.
- Employ integrity and ethical conduct in research as a socially and culturally responsible researcher.
- Plan and execute a research project to contribute knowledge to your discipline.
- Demonstrate expert judgement, adaptability and accountability in your professional

practice as an independent researcher.

- Apply high-level cognitive, creative and technical skills to generate and evaluate complex ideas and concepts.

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
- [Academic Success](#) 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.

³ An automatic short extension is available for some assessments. Apply through the [Service Connect Portal](#).

Delivery and Resources

Each candidate is expected to attend the mandatory faculty induction workshops on research writing, research integrity, and research planning. Candidates will also attend relevant safety and ethics induction workshops to ensure tasks required for their project are conducted in a safe and professional manner. Each candidate will attend several technical training sessions and methods workshops relevant to their research, as stipulated by their research supervisor(s). Each candidate will receive on-going tuition and advice regarding appropriate research methodologies, specialist techniques and data analysis methods from their supervisory team.

Unit Schedule

Please check the iLearn page.

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](#) (<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 connect.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/>

Academic Success

[Academic Success](#) provides resources to develop your English language proficiency, academic writing, and communication skills.

- [Ask a Study Coach](#)
- [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 the [Service Connect Portal](#), or contact [Service Connect](#).

IT Help

For help with University computer systems and technology, visit <https://students.mq.edu.au/support/technology/service-desk>.

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

No changes from the previous offering. We value student feedback to be able to continually improve the way we offer our units. As such we encourage students to provide constructive feedback via student surveys, to the teaching staff directly, or via the FSE Student Experience & Feedback link in the iLearn page.

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
	1.2 Conceptual understanding of underpinning maths, analysis, statistics, computing	6
	1.3 In-depth understanding of specialist bodies of knowledge	1
	1.4 Discernment of knowledge development and research directions	1,2,5,6
	1.5 Knowledge of engineering design practice	4

EA Competency Standard	Unit Learning Outcomes	
	1.6 Understanding of scope, principles, norms, accountabilities of sustainable engineering practice	5
Engineering Application Ability	2.1 Application of established engineering methods to complex problem solving	1,6
	2.2 Fluent application of engineering techniques, tools and resources	6
	2.3 Application of systematic engineering synthesis and design process	4
	2.4 Application of systematic approaches to the conduct and management of engineering projects	4
Professional and Personal Attributes	3.1 Ethical conduct and professional accountability	3,5
	3.2 Effective oral and written communication in professional lay domains	2
	3.3 Creative, innovative and pro-active demeanour	6
	3.4 Professional use and management of information	2
	3.5 Orderly management of self, and professional conduct	3,5
	3.6 Effective team membership and team leadership	5

Unit information based on version 2026.01R of the [Handbook](#)