

Explore EIT's Master of Engineering – Applied Research Degrees

On-campus and online delivery

[Watch Webinar Recording Here](#)

8:00 AM – 9:00 AM (UTC)

Presented by:

Dr. Igor Shufrin | EIT Lecturer & Course Coordinator – Civil Engineering



Event Conduct



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Introduction – Presenter

Dr. Igor Shufrin | EIT Lecturer & Course Coordinator – Civil Engineering

Dr. Shufrin started his career as a Civil engineer and worked in construction industry for several years in Russia. He was awarded a PhD in Structural Engineering from Technion- Israel Institute of Technology in 2007 and then continued his research career at the University of Western Australia (UWA). He returned to Israel in 2016, where he worked as a Senior Lecturer at the Ben-Gurion University of the Negev for 6 years. Currently, Dr. Shufrin is serving as a lecturer and a unit coordinator at the Engineering Institute of Technology (EIT).



Dr. Shufrin's research is focused on Design and Analysis of hybrid materials and composite structures and Computational methods in engineering.

Agenda

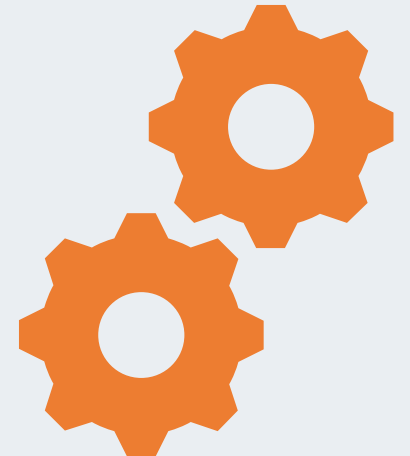
1. About EIT's Master of Engineering – Applied Research degrees
2. Program Benefits and Learning Outcomes
3. Program Structure
 - › Credit points, Research Timeline and Supervisor allocation procedure
4. Master of Engineering – Applied Research (Electrical Systems)
5. Master of Engineering – Applied Research (Industrial Automation)
6. Master of Engineering – Applied Research (Mechanical)
7. Master of Engineering – Applied Research (Civil: Structural)
8. Additional Mandatory Units
9. Entry Requirements
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11. Accreditation
12. Time and Commitment
13. Student support
14. Remote & Virtual Labs
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About EIT's Master of Engineering – Applied Research Degrees

Designed for engineering professionals seeking to deepen their technical expertise, [EIT's Master of Engineering – Applied Research](#) programs focus on developing advanced technical knowledge alongside practical research capabilities. Students engage directly with complex engineering challenges, contributing to solutions that align with industry needs.

What sets this new suite of applied research [Master of Engineering](#) degrees apart is not only the flexibility of the qualifications, but also their strong research-driven structure. Students will engage in practical investigations and collaborate on industry-aligned solutions throughout the programs.





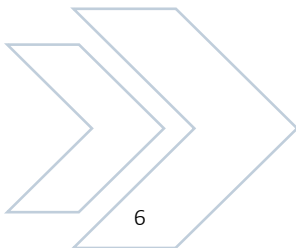
Course Specializations

Civil and Structural Engineering

Mechanical Engineering

Electrical Systems Engineering

Industrial Automation Engineering



Study Modes



Online Delivery



On-Campus Delivery

Perth, Melbourne, and Brisbane Campus.

**Please note that the Master of Engineering – Applied Research (Industrial Automation) is NOT offered at Brisbane campus.*



Program Benefits

- Build Advanced Research Expertise – Master rigorous applied methodologies to investigate and solve complex engineering challenges.
- Drive Innovation in Industry – Develop and implement engineering solutions that enhance performance, safety, and efficiency.
- Strengthen Technical Leadership Skills – Cultivate advanced analytical, decision-making, and communication skills for senior engineering roles.



Learning Outcomes

Graduates of the Master of Engineering – Applied Research can:

- Plan, justify and execute an applied engineering research project addressing a complex real-world problem.
- Apply appropriate research methodologies, tools, and ethical, safety and privacy standards in the conduct of applied engineering investigations.
- Critically evaluate relevant literature to justify the research problem, approach, and contribution to engineering practice.
- Synthesize advanced scientific, computational, and engineering principles to design and evaluate solutions to complex engineering problems.
- Communicate complex engineering concepts, methodologies, and research findings effectively to specialist and non-specialist audiences.
- Engage in self-directed learning and reflective practice to support ongoing professional development.
- Apply advanced collaborative and ethical practices to work effectively within cross-disciplinary teams and organizational contexts

Master of Engineering – Applied Research: Program Structure

- Duration: 2 years (full-time)
- AQF Level: 9 (Master's Degree by Research)
 - › Emphasis on applied research
- Delivery Mode: On-campus/Online
- Credit Points: 48 CP
 - › 6 units (18 CP) coursework (37.5%)
 - › 30 cp research thesis (62.5%)

Year 1: 6 coursework units+MXX601+MER600 Master's Research Project Proposal

Year 2: 2 research units (MER701 and MER702 Master's Research Thesis)



Master of Engineering – Applied Research: Program Structure

Exit Awards: Earn a Graduate Certificate After 4 Units

Students who successfully complete the first four units of their Master of Engineering – Applied Research program may opt to receive an EIT Graduate Certificate in their engineering specialisation.

Available Exit Awards:

- Graduate Certificate in Mechanical Engineering and Engineering Practice
- Graduate Certificate in Civil Engineering: Structural Design and Engineering Practice
- Graduate Certificate in Power Systems Analysis and Engineering Practice
- Graduate Certificate in Industrial Automation and Engineering Practice

***Please note: Exit Awards are available for online programs only and do not apply to the on-campus Master of Engineering – Applied Research programs.**

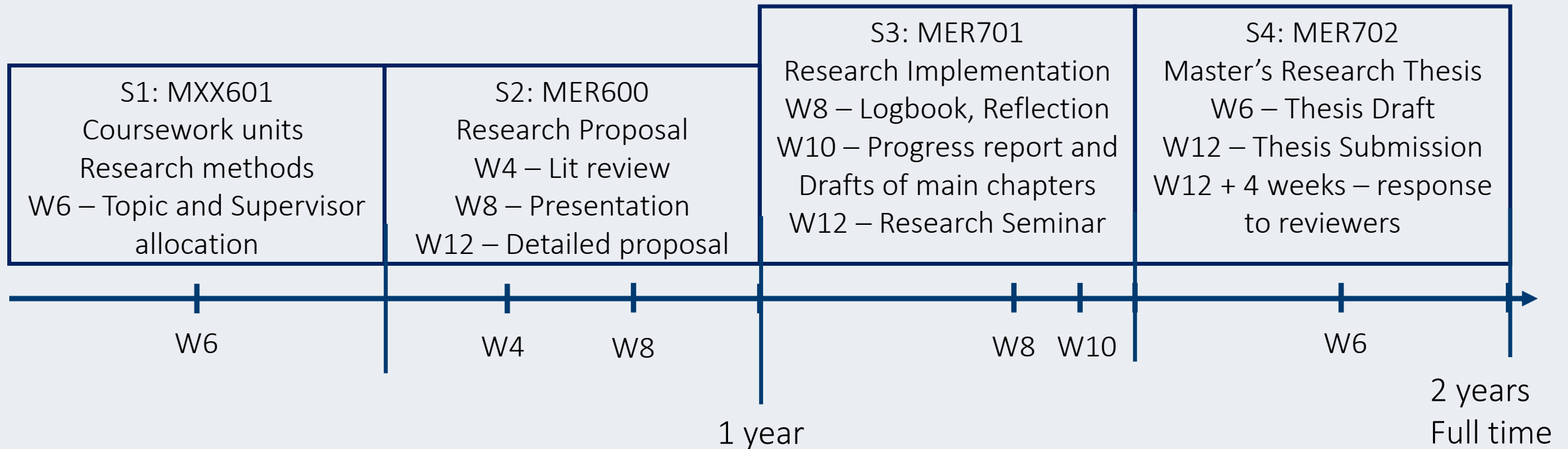


Master of Engineering – Applied Research: What is different?

Main differences from the coursework Master's streams:

- The admission criteria are tightened by requiring higher grades and research experience
- The second year is fully dedicated to research
- Research supervisors play a more important role.
- The degree of contribution and originality in the research thesis is greater.
- Offers a pathway to the DENG program

Master of Engineering – Applied Research: Research timeline



Supervisor Allocation Procedure

The supervisor allocation is based on the following principles

- Alignment with AQF Level 9 (Research) expectations
- Mutual agreement between student and supervisor is essential
- Projects must be feasible within available resources and timeframe
- Transparent and equitable process across all disciplines

Master of Engineering – Applied Research (Electrical Systems)



Course Overview

EIT's [Master of Engineering – Applied Research \(Electrical Systems\)](#) may suit students and engineering professionals who are interested in exploring challenges like improving power distribution efficiency or integrating renewable energy sources into existing networks, where real operational systems and energy demands shape the direction of the research.

Potential job roles include (but not restricted to) engineering positions in the following areas of expertise:

- Power Systems Engineer
- Renewable Energy Specialist
- High Voltage Systems Specialist
- R&D Engineer (Electrical Systems)



Study Modes Snapshot

Master of Engineering – Applied Research (Electrical Systems)

CRICOS Course Code: 120203B

Duration: 2 Years Full-time

Study Mode: Online and On-Campus

Online Intakes: 4 January 2027 / 28 June 2027

On-Campus Intakes: 7 September 2026 / 15 February 2027

Locations: Brisbane, Perth, Melbourne

Master of Engineering – Applied Research (Electrical Systems)

Year One

Unit Code	Unit Name	Research or Coursework	Credit Points
<u>MEE501</u>	Power Generation	Coursework	3
<u>MEE510</u>	Power Conversion	Coursework	3
<u>MEE513</u>	Electric Power System Analysis	Coursework	3
<u>MX601</u>	Engineering Practice and Key Research Methods	Research	3
<u>MER600</u>	Master's Research Project – Proposal	Research	3
<u>MER602</u>	Technology Evaluation and Intellectual Property	Coursework	3
<u>MEE – Online</u>	Elective Unit from the MEE coursework stream (Level 5)	Coursework	3
<u>MEE – Online</u>	Elective Unit from the MEE coursework stream (Level 6)	Coursework	3

Master of Engineering – Applied Research (Electrical Systems)

Year Two

Unit Code	Unit Name	Research or Coursework	Credit Points
MER701	Master's Research Project – Research Implementation	Research	12
MER702	Master's Research Thesis	Research	12

Sample of Research Topics:

- Optimal Placement and Sizing of Battery Energy Storage Systems for Solar PV Integration in Distribution Networks
- Thermal Performance Modelling of Fuel Cell Waste Heat Integration in District HVAC Networks
- Development of an Intelligent Battery Health Management and Energy Optimisation Framework for Hybrid Renewable Energy Systems
- Grid-Forming Control of DFIG-Based Wind Farms for Low-Inertia Power Systems

Software used

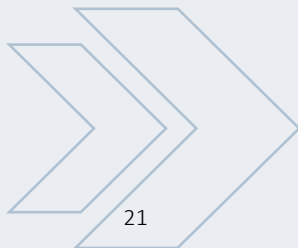
The following software may be used for Master of Engineering – Applied Research (Electrical Systems) studies:

- ETAP
- PSCAD
- PowerWorld
- SPICE software
- PowerFactory
- MATLAB/Simulink
- PSSE
- Homer Pro
- LabView

Due to ongoing unit and course reviews, software may change from the list provided. Learn more about the Practical Learning at EIT [here](#)



Master of Engineering – Applied Research (Industrial Automation)



Course Overview

EIT's [Master of Engineering – Applied Research \(Industrial Automation\)](#) may appeal to students and engineering professionals who are inclined toward improving production efficiency, reducing downtime, or enhancing automation systems, working within real factory conditions and operational data rather than isolated simulations.

Potential job roles include (but not restricted to) engineering positions in the following areas of expertise:

- Industrial Digitalization Engineer
- Robotics & Smart Manufacturing Engineer
- Industrial Data & Systems Optimization Engineer
- Industrial AI & Process Automation Engineer



Study Modes Snapshot

Master of Engineering – Applied Research (Industrial Automation)

CRICOS Course Code: 120205M

Duration: 2 Years Full-time

Study Mode: Online and On-Campus

Online Intakes: 4 January 2027 / 28 June 2027

On-Campus Intakes: 7 September 2026 / 15 February 2027

Locations: Perth, Melbourne

Master of Engineering – Applied Research (Industrial Automation)

Year One

Unit Code	Unit Name	Research or Coursework	Credit Points
<u>MIA500A</u>	Industrial Automation Introduction	Coursework	3
<u>MIA502A</u>	Programmable Logic Controllers	Coursework	3
<u>MIA503A</u>	Industrial Process Control Systems	Coursework	3
<u>MXX601</u>	Engineering Practice and Key Research Methods	Research	3
<u>MER600</u>	Master's Research Project – Proposal	Research	3
<u>MER602</u>	Technology Evaluation and Intellectual Property	Coursework	3
<u>MIA – Online</u>	Elective Unit from the MIA coursework stream (Level 5)	Coursework	3
<u>MIA – Online</u>	Elective Unit from the MIA coursework stream (Level 6)	Coursework	3

Master of Engineering – Applied Research (Industrial Automation)

Year Two

Unit Code	Unit Name	Research or Coursework	Credit Points
MER701	Master's Research Project – Research Implementation	Research	12
MER702	Master's Research Thesis	Research	12

Sample of Research Topics:

- Out-Of-Distribution-Detection for Condition Monitoring of Electric Motors Using Audio Signal Processing
- AI-Enhanced Perception and Force-Guided Adaptive Grasping Using a Niryo Ned2 Robot
- Autonomous Drone Control for Building Façade Cleaning: Path Optimization, Stability, and Energy Efficiency
- Computer Vision and Artificial Intelligence for Structural Condition Assessment

Software Used

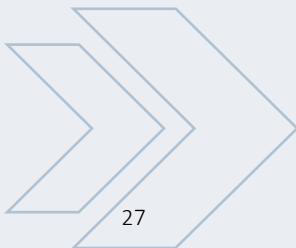
The following software may be used for Master of Engineering – Applied Research (Industrial Automation) studies:

- VPLabs
- Codesys
- Realterm
- Modbus (Serial and TCP)
- Wireshark
- OPC
- Open PHA™ – Kenexis
- Numpy
- Scikit-learn
- Statsmodels, Tensorflow
- Factory Talk View Studio
- mod_RSsim
- WinTr from
- PowerFactory
- MATLAB/Simulink
- LabView

Due to ongoing unit and course reviews, software may change from the list provided. Learn more about the Practical Learning at EIT [here](#)



Master of Engineering – Applied Research (Mechanical)



Course Overview

The [Master of Engineering – Applied Research \(Mechanical\)](#) course may resonate with students shape how solutions are developed and engineering professionals who are interested in exploring challenges such as improving machine performance, enhancing thermal efficiency, or increasing system reliability, where real operating conditions and industrial demands and refined.

Potential job roles include (but not restricted to) engineering positions in the following areas of expertise:

- Advanced Simulation & FEA Specialist
- Fatigue & Fracture Analysis Engineer
- Reliability & Asset Integrity Specialist
- R&D Engineer (Advanced Mechanical Systems)



Study Modes Snapshot

Master of Engineering – Applied Research (Mechanical)

CRICOS Course Code: 120204A

Duration: 2 Years Full-time

Study Mode: Online and On-Campus

Online Intakes: 4 January 2027 / 28 June 2027

On-Campus Intakes: 7 September 2026 / 15 February 2027

Locations: Brisbane, Perth, Melbourne

Master of Engineering – Applied Research (Mechanical)

Year One

Unit Code	Unit Name	Research or Coursework	Credit Points
MME501A	Design and Failure Analysis of Materials	Coursework	3
MME502A	Heat Transfer	Coursework	3
MME503A	Industrial Hydraulics and Pneumatics	Coursework	3
MXX601	Engineering Practice and Key Research Methods	Research	3
MER600	Master's Research Project – Proposal	Research	3
MER602	Technology Evaluation and Intellectual Property	Coursework	3
MME – Online	Elective Unit from the MME coursework stream (Level 5)	Coursework	3
MME – Online	Elective Unit from the MME coursework stream (Level 6)	Coursework	3

Master of Engineering – Applied Research (Mechanical)

Year Two

Unit Code	Unit Name	Research or Coursework	Credit Points
MER701	Master's Research Project – Research Implementation	Research	12
MER702	Master's Research Thesis	Research	12

Sample of Research Topics:

- FEA-Based Optimization of Bioceramic–Polymer Composites for Load-Bearing Bone Implants
- Design optimisation of thin liquid cooling plates for electronic packaging
- Industry 4.0-Enabled Predictive Maintenance and Bottleneck Optimisation of a Flexible Manufacturing System Using Machine Learning
- Simulation-Based Digital Twin Development for Real-Time Monitoring and Optimisation of a Supply Chain

Software used

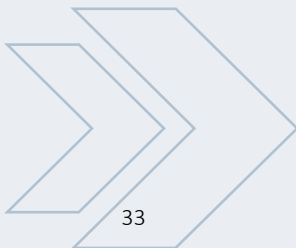
The following software may be used for Master of Engineering – Applied Research (Mechanical) studies:

- Interactive Heat Transfer (IHT) software
- Automation Studio
- ABAQUS
- ANSYS
- GasTurb
- SolidWorks
- Autodesk Inventor
- MATLAB/Simulink

Due to ongoing unit and course reviews, software may change from the list provided. Learn more about the Practical Learning at EIT [here](#)



Master of Engineering – Applied Research (Civil: Structural)



Course Overview

The Master of Engineering – Applied Research (Civil: Structural) course may be a natural fit for students and engineering professionals who are drawn to challenges such as improving bridge durability under extreme weather conditions or optimizing construction materials for cost efficiency and sustainability, where real project constraints and requirements guide the investigation rather than purely theoretical material behavior.

Potential job roles include (but not restricted to) engineering positions in the following areas of expertise:

- Advanced Simulation & FEA Specialist
- Fatigue & Fracture Analysis Engineer
- Reliability & Asset Integrity Specialist
- R&D Engineer (Advanced Mechanical Systems)



Study Modes Snapshot

Master of Engineering – Applied Research (Civil: Structural)

CRICOS Course Code: 120202C

Duration: 2 Years Full-time

Study Mode: Online and On-Campus

Online Intakes: 4 January 2027 / 28 June 2027

On-Campus Intakes: 7 September 2026 / 15 February 2027

Locations: Brisbane, Perth, Melbourne

Master of Engineering – Applied Research (Civil: Structural)

Year One

Unit Code	Unit Name	Research or Coursework	Credit Points
<u>MCS501A</u>	Advanced Structural Analysis	Coursework	3
<u>MCS502A</u>	Advanced Engineering Materials	Coursework	3
<u>MCS503A</u>	Structural Design Part 1 – Advanced Topics on Reinforced Concrete Design	Coursework	3
<u>MXX601</u>	Engineering Practice and Key Research Methods	Research	3
<u>MER600</u>	Master's Research Project – Proposal	Research	3
<u>MER602</u>	Technology Evaluation and Intellectual Property	Coursework	3
<u>MCS – Online</u>	Elective Unit from the MCS coursework stream (Level 5)	Coursework	3
<u>MCS – Online</u>	Elective Unit from the MCS coursework stream (Level 6)	Coursework	3

Master of Engineering – Applied Research (Civil: Structural)

Year Two

Unit Code	Unit Name	Research or Coursework	Credit Points
MER701	Master's Research Project – Research Implementation	Research	12
MER702	Master's Research Thesis	Research	12

Sample of Research Topics:

- Optimising the performance of high SCM concrete with admixture solutions
- Fire Performance of Lightweight Steel Support Systems and MEP Services
- BIM-Based Clash Detection and Construction Risk Management in Large Infrastructure Projects
- Multi-Objective Performance Assessment of Hybrid Lateral Load-Resisting Systems for Mid-Rise Buildings under Wind and Seismic Loading
- Development of a Criticality Index for Progressive Collapse Resistance of RC Frame Buildings

Software used

The following software may be used for Master of Engineering – Applied Research (Civil: Structural) studies:

- SPACE GASS
- ETABS/SAP-2000/SAFE
- Prokon
- ABAQUS
- ANSYS
- Inducta (FTG, SLB)
- STAAD.Pro
- PLAXIS
- Autodesk REVIT
- MATLAB/Simulink

Due to ongoing unit and course reviews, software may change from the list provided. Learn more about the Practical Learning at EIT [here](#)

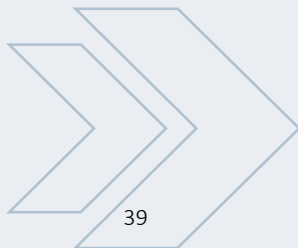


Master of Engineering – Applied Research: Program Structure

Additional Mandatory Units

Unit Code	Unit Name
<u>MX001</u>	Professional Practice Hands-on Workshop
<u>MX510</u>	Professional Experience

EIT's Master of Engineering programs require students to undertake **240 hours of paid or unpaid professional work-integrated learning.**



Entry Requirements

Academic Qualification Requirements

Pathway A:

- Australian Bachelor Degree (or international equivalent) in a congruent field of engineering practice with a minimum overall grade of 75%.

Pathway B:

- Australian Bachelor Degree Honours or above (or international equivalent) in a congruent field of engineering practice with a minimum overall grade of 65%.

Pathway C:

- Australian Master Degree or above (or international equivalent) in a congruent engineering field.



Entry Requirements

Research Experience

ALL applicants must submit a 500 word statement detailing their research experience within their qualification or work experience. This statement must be accompanied with supporting evidence. The supporting evidence can be demonstrated with documentation of final year or capstone project reports, technical research or investigation reports, engineering design with analytical depth and simulation/modelling studies with documented methodology.



English Language Requirements

An appropriate level of English Language Proficiency equivalent to an English pass level in an Australian Senior Certificate of Education, or an IELTS score of 6.0 (with no individual band less than 6.0), or equivalent as outlined in the EIT Admissions Policy.

Please note: Meeting the minimum admission criteria does not guarantee entry to our programs. Applications are assessed on a case-by-case basis.

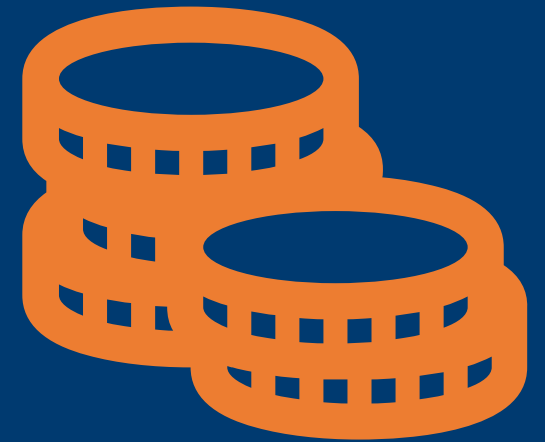
Please check the [Documentation Guidelines](#) for your application.

Fees & Payments

For full current fees in your country go to the drop down filter at the top of each course page or [visit the Fee pages](#).

Payment Methods

Learn more about [payment methods](#), including payment terms & conditions and additional non-tuition fees.



Accreditation

These programs are accredited as Level 9 under the Australian Qualifications Framework (AQF).

Students should satisfy themselves through their own research with their local accreditation before commencing the program.

Time Commitment & Duration

Online:

Our Master's degrees are designed to be completed in two years full-time or part time equivalent, delivered over four 12-week terms per year. Students are expected to dedicate approximately 10 hours per 3-credit-point unit per week to learning, completing assessments, and attending tutorials. Students are expected to study for 48 weeks of the year. Following enrolment, the maximum time allowed to complete all units is five years.

On- Campus

Our master's degrees take two years to complete full-time on-campus, and longer for those studying part-time. You will spend approximately 10 hours per 3-credit-point unit per week learning the program material, completing assessments, and attending tutorials. After enrolment the maximum time allowed to complete all units is five years.



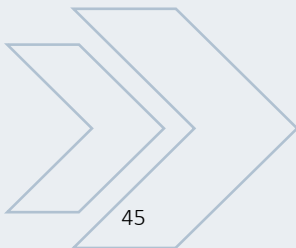


Student Support

Both online and on-campus students need support, encouragement, and a go-to person. Our students are supported by dedicated Learning Support Officers (LSOs) for the duration of their studies, giving them a greater chance of success. Students studying our higher education programs will have a committed LSO for each unit of study.

They provide guidance on non-content related information such as :

- Live tutorial information
- Assessment dates, times and extensions
- Grades
- Health and well-being information



Remote and Virtual Labs

When studying at EIT, students complete practical exercises using a combination of remote and virtual laboratories and simulation software.

Practical Experience

In these remote and virtual laboratories students can control physical equipment and sensors equivalent to the traditional university engineering lab.

1. Traditional, physical labs at a distance, but operating in real time.
2. Accurate representation of current industry hands-on.
3. The interface to equipment is digital and data-driven.
4. High availability and asynchronous – anytime.
5. Access to specialized equipment in a safe and near-limitless testing environment.
6. Diverse student cohorts.
7. Bandwidth requirements can be demanding.
8. Support

Thank You!

Upcoming Courses

Please refer to the EIT website for further information.

Engineering Institute of Technology (EIT)	Start Date
On-Campus Master of Engineering – Applied Research (Electrical Systems) (CRICOS Course Code: 120203B)	7 September 2026
On-Campus Master of Engineering – Applied Research (Industrial Automation) (CRICOS Course Code: 120205M)	7 September 2026
On-Campus Master of Engineering – Applied Research (Mechanical) (CRICOS Course Code: 120204A)	7 September 2026
On-Campus Master of Engineering – Applied Research (Civil: Structural) (CRICOS Course Code: 120202C)	7 September 2026
Master of Engineering – Applied Research (Electrical Systems)	4 January 2027
Master of Engineering – Applied Research (Industrial Automation)	4 January 2027
Master of Engineering – Applied Research (Mechanical)	4 January 2027
Master of Engineering – Applied Research (Civil: Structural)	4 January 2027

Q&A

Contact Us:



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Courses
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