

Master of Engineering Research (MENR) - MEngR

CRICOS code (International applicants): 066076A

	On-campus	Distance education
Semester intake:	Semester 1 (February) Semester 2 (July)	Semester 1 (February) Semester 2 (July)
Campus:	Toowoomba	-
Fees:	Domestic full fee paying place International full fee paying place Research training scheme (RTS)	Domestic full fee paying place International full fee paying place Research training scheme (RTS)
Standard duration:	3 semesters full-time, 6 semesters part-time or 6 semesters by distance education.	
Program articulation:	To: Doctor of Philosophy	

Contact us

Future Australian and New Zealand students	Future International students	Current students
Ask a question Freecall (within Australia): 1800 269 500 Phone (from outside Australia): +61 7 4631 5315 Email: studyeng@usq.edu.au	Ask a question Phone: +61 7 4631 5543 Email: international@usq.edu.au	Ask a question Freecall (within Australia): 1800 007 252 Phone (from outside Australia): +61 7 4631 2285 Email usq.support@usq.edu.au

Program focus

This program is a research degree which allows students to develop critical research skills in their area of specialisation. A dissertation is produced, based on the research undertaken.

Program objectives

The principal aim of the program is to produce graduates who are highly competent in research and development work in engineering. Specifically, graduates of the program will be able to demonstrate:

- a broad knowledge of engineering practice in agricultural, civil, computer systems, electrical, electronic, environmental, mechanical or mechatronic engineering
- an extensive and detailed knowledge of one significant aspect of engineering at a level that allows for the proposal and evaluation of innovative solutions to complex technical problems in that area
- an exhaustive knowledge of, and ability to access, sources of information about Australian and overseas engineering practice in agricultural, civil, electrical, electronic, environmental, mechanical or mechatronic engineering
- an ability to utilise sound research methodology and experimental design in an investigative study
- an awareness of the practical applications and the implications for the industry of the research work that has been undertaken
- a high standard of written communication on technical matters.

Admission requirements

All candidates for admission to the program will have demonstrated a high level of ability at the undergraduate level or will have demonstrated, in pursuit of their occupation or by other means, their ability to perform successfully studies at this level.

Specifically, a candidate will normally be considered for admission to a place in the Master of Engineering Research program if the candidate either:

- holds a four-year bachelor's degree in engineering awarded by an Australian university or university college, or an equivalent qualification awarded by an overseas institution; and
- can demonstrate a high level of academic performance in their undergraduate studies;

or

- holds a bachelor's degree in science, applied mathematics, or a related field of study awarded by an Australian university or university college, or an equivalent qualification awarded by an overseas institution; and
- can demonstrate a high level of academic performance in their undergraduate studies;
- has completed a qualifying program of engineering studies approved by the Dean of the Faculty of Engineering and Surveying;

or

- has worked as a professional engineer in a position of responsibility for a period of not less than five years and can provide documentary evidence, such as technical publications, that satisfies the Dean of the Faculty of Engineering and Surveying that advanced knowledge has been acquired; and
- successfully completes an interview conducted by the Dean of the Faculty of Engineering and Surveying or his/her nominee to assess the candidate's chance of success in the program.

International students must meet the University's English language proficiency requirements for postgraduate students. Please refer to Section 2.2.3 of the [Admissions Policy](#).

How to apply

Applications for [Research Master and Doctorate programs](#) should be made directly to USQ.

Program fees

Domestic full fee paying place

Domestic full fee paying places are funded entirely through the full fees paid by the student. Full fees vary depending on the courses that are taken. You are able to calculate the fees for a particular course via the [Course Fee Finder](#).

Permanent Humanitarian Visa holders, Permanent Resident visa holders and New Zealand citizens who reside outside Australia pay full tuition fees.

Domestic full fee paying students may be eligible to defer their fees through a Government loan called [FEE-HELP](#).

International full fee paying place

International students pay full fees. Full fees vary depending on the courses that are taken and whether they are studied on-campus, via distance education/online. You are able to calculate the fees for a particular course via the [Course Fee Finder](#).

Research training scheme (RTS)

The Research Training Scheme (RTS) provides Commonwealth-funded higher degree by research (HDR) students with an 'entitlement' to an exemption from course fees for the equivalent of four years full-time study in an accredited HDR program. If a student's RTS entitlement expires before they have completed their program they will be required to pay full tuition fees. As there may be limited RTS places available, some students

may be required to pay fees for all or part of their program. The USQ [Office of Research and Higher Degrees](#) will advise students of their eligibility for an RTS place.

Program structure

The Master of Engineering Research involves a minimum of either three terms of full-time research or six terms of part-time research during which a candidate prepares a dissertation on the research undertaken and submits it for examination. Research topics are selected from areas of agricultural, civil, electrical, electronic, environmental, mechanical, biomedical and mechatronic engineering.

The Master of Engineering Research may also incorporate a small component of coursework, limited to a maximum of two unit courses, drawn from the undergraduate programs of the Faculties of Engineering and Surveying, Business and Sciences.

Required time limits

Full-time students have a maximum of three years to complete this program. Part-time students have a maximum of six years to complete this program. International students should complete this program within the CRICOS duration which is two years.

A pro-rata adjustment of the maximum time period will apply for those students who transfer from one mode of study to another. A pro-rata reduction in the maximum time period will apply to students who are admitted to a program with advanced standing.

Research

The key areas of research of the Faculty are:

- **Agricultural and Environmental Engineering**
 - Agricultural Machinery
 - Precision Agriculture
 - Biosystems
 - Ground Water
 - Waste Treatment
 - Environmental Modelling
 - Irrigation
- **Computational Engineering**
 - Numerical Methods and Analysis
 - Modelling and Simulation
 - Finite Elements
- **Electrical, Electronic and Computer Engineering**
 - Microwave Engineering
 - Signal Processing and Neural Networks
 - Computer and Network Engineering
 - Energy Systems and Control
- **Fluid Mechanics, Rheology and Thermofluids**
 - Aerodynamics
 - Heat and Mass Transfer
 - Flow of Polymeric Liquids
 - Engines and Thermal Energy Conversion
- **GIS and Planning**
 - Remote Sensing and Photogrammetry
 - Surveying and Land Planning
 - Spatial Modelling and GPS

- **Mechanics, Materials and Structures**

- Fibre Composites
- Concretes
- Metals
- Soil Mechanics
- Fracture Mechanics

- **Mechatronics and Control**

- Agricultural Machinery
- Robotics
- Smart Devices
- Machine Vision
- Measurement and Instrumentation.

IT requirements

Students should refer to the section entitled [Access to Information Technology Facilities](#) in the General Faculty and Program Information section of this Handbook.

Other program requirements

Students enrolling in this program by external mode will need to demonstrate that the educational objectives normally achieved by attendance on-campus are met by other means. This will normally require that:

- there is acceptable local day to day supervision
- the research project is related to their day to day work
- the student has access to adequate local facilities such as a library, laboratory and/or the technical support required to complete the research project
- communication with USQ staff is readily available via telephone, facsimile and/or email
- the USQ supervisor is able to visit the remote site as required
- the student is able to attend the USQ campus for supervision and/or seminars as directed.

Recommended enrolment pattern

The Master of Engineering Research is comprised of a minimum of 12 units of independent research. Students studying full-time on-campus will normally undertake eight units per year; part-time students normally enrol in four units per year. Full-time students normally enrol in a four-unit course for each term in which they undertake research activities. Part-time students normally enrol in a two-unit course for each term in which they engage in research activities.

Course	Year of program and semester in which course is normally studied						Enrolment requirements	Comments
	On-campus (ONC)		External (EXT)		Online (WEB)			
	Year	Sem	Year	Sem	Year	Sem		
Coursework Course								
ENG8001 Engineering and Surveying Research Methodology		1,2					1,2	
Research Courses								
Distance Education students must enrol in the on-campus mode								
ENG9011 Independent Research in Engineering and Surveying 1		1						One unit
ENG9012 Independent Research in Engineering and Surveying 2		2						One unit

Course	Year of program and semester in which course is normally studied						Enrolment requirements	Comments
	On-campus (ONC)		External (EXT)		Online (WEB)			
	Year	Sem	Year	Sem	Year	Sem		
ENG9021 Independent Research in Engineering and Surveying 1		1						Two units
ENG9041 Independent Research in Engineering and Surveying 1		1						Four units
ENG9022 Independent Research in Engineering and Surveying 2		2						Two units
ENG9042 Independent Research in Engineering and Surveying 2		2						Four units
ENG9023 Independent Research in Engineering and Surveying 3		3						Two units
ENG9043 Independent Research in Engineering and Surveying 3		3						Four units

Notes:

Students must complete [ENG8001](#) and a total of 11 units of Independent Research in Engineering and Surveying courses. Distance Education students must enrol in the on-campus offering of the Independent Research units. [ENG8001](#) must be satisfactorily completed during the first term of study.

Programs may be varied to suit the needs of individual students. Enrolment in the above courses is used to monitor student progress and to levy program fees where appropriate, so it is important to consult with the Associate Dean (Research) when finalising enrolment for this program. All of the above courses (except [ENG8001](#)) are ungraded courses, i.e. successful completion will be indicated by a Satisfactory Progress grade.