Master of Professional Engineering

This two-year course provides a developmental path for professional engineers to master skills in selected engineering disciplines and the interaction of those disciplines. Enhance your skills in dealing with more complex engineering problems, and interactions between engineering technical domains and the broader context in which they exist.

This course provides post-professional knowledge and skills in a range of engineering disciplines. It will equip you with the abilities to become a leader in your chosen engineering field. The program offers both theoretical understanding and practical applications of advanced professional engineering practices, with a focus on themed technical discipline areas and sustainable, ethical and managerial abilities.

We are currently seeking provisional accreditation with Engineers Australia for the Master of Professional Engineering. Professional accreditation allows graduates to work as a professional engineer in countries that are signatories of the Washington Accord.

Why choose this course?
Our Master of Professional Engineering enhances the knowledge, practice and professional employability skills of engineers in specific discipline areas at an advanced level. This course provides an integrated mix of specialist discipline complexity and evidence-based practice with future-focused professional skills development in a connected learning environment.

Three-quarters of new engineering graduates looking for full-time work find it within four months and have the highest rate of professional or managerial employment of all STEM graduates (Norton, 2016).

You can choose from three main study areas as part of this course: civil engineering, electrical engineering, or mechanical engineering. Within these, you can choose from seven majors:

- The civil engineering stream provides advanced studies in the broad spectrum of civil engineering disciplines, expanding the knowledge gained in undergraduate degrees and applying it to complex problems. The course will prepare graduates to deal with future challenges in sustainability of civil infrastructure with respect to global warming and population growth.
- The civil and construction stream provides advanced studies in design, building and maintenance of civil infrastructures, while expanding the knowledge gained in...
undergraduate degrees. Explore the sustainability of buildings, roads and utility networks in the context of future challenges to get prepared for a changing world.

- The civil and management stream provides advanced studies in the broad spectrum of civil engineering disciplines, expanding the knowledge gained in undergraduate degrees and complementing them with relevant management theory and practice in preparation to solve complex tasks in managing civil engineering projects.
- The electrical engineering stream provides advanced theoretical understanding and knowledge of current professional engineering practices in electrical engineering. It focuses on the technical discipline area, sustainable and ethical considerations, and evidence-based practices.
- The mechanical engineering stream offers an engineering management qualification to practising engineers, specialising in electrical engineering. It combines a formal qualification in management with advanced electrical engineering skills and knowledge.
- The mechanical engineering stream provides advanced theoretical understanding and knowledge of current professional engineering practices in mechanical engineering. It focuses on the technical discipline area, sustainable and ethical considerations, and evidence-based practices.
- The mechanical and management stream offers an engineering management qualification to practising engineers, specialising in mechanical engineering. It combines a formal qualification in management with advanced mechanical engineering skills and knowledge.

This course is suitable for practising engineers who want to change engineering disciplines and earn postgraduate qualifications.

Real-world learning
Through your studies, you will learn how to:
- apply advanced and specialist knowledge, concepts and practices in engineering design, analysis management and sustainability
- critically analyse and evaluate complex engineering problems to achieve, research informed solutions
- apply systematic approaches to plan, design, execute and manage an engineering project
- communicate complex information effectively and succinctly, presenting high level reports, arguments and justifications in oral, written and visual forms to professional and non-specialist audiences
- organise and manage time, tasks and projects independently, and collaboratively demonstrating the values and principles that shape engineering decision making and professional accountability.

You will be engaged with the demands, complexities, tools and contemporary practices of authentic engineering environments. You will develop and shape contemporary authentic professional skills for immediate application in workplace contexts.

You will undertake your studies through a range of learning practices, including industry-led case studies, project-based learning. Your capstone learning experience is a workplace-based or authentic two-semester project staged via a series of developmental assessments. This is supported through preparation for a simulated international engineering conference (peer-reviewed poster presentation and paper). All Master of Professional Engineering students undertake an engineering work placement to satisfy a requirement for accreditation with Engineers Australia.

Course structure
To graduate with a Master of Professional Engineering you must complete 192 credit points of course units consisting of:

- 84 credit points of core units, including: advanced research skills and research-based project unit two professional practice units an advanced discipline unit an engineering design unit
- 108 credit points of discipline units from your specialisation, to be selected from a list of options.

Option units provide added depth and breadth in your chosen discipline area. You should select different unit if you have completed a similar or equivalent unit in your previous studies.

You are also required to undertake 60 days of approved work experience in the engineering environment as part of your Work Integrated Learning.

Careers and outcomes
As a graduate of the Master of Professional Engineering, you will be an Engineers Australia-accredited professional engineer with advanced cutting-edge knowledge and skills in a chosen engineering field or engineering management role. You will be able to lead and contribute to complex projects and respond rapidly and effectively to current and emerging local and global challenges. You will have research capacity for evidence-based practice, to imagine and realise change using management strategies, advanced design, collaborative decision-making and innovation in ethical and sustainable ways as appropriate to your role; you will be strategic in the use of digital technologies. You will be an effective collaborator and communicator in disciplinary and interdisciplinary contexts with knowledge of and respect for diverse cultural perspectives.

You will be able to apply integrated computer-based approaches to monitor and manage internal and external resources in an organisation and implement a range of strategies and practices to support organisational objectives such as competitive advantages, innovation, sharing lessons learned, integration and continuous improvement. You will be able to become a specialist engineering manager within your chosen professional field, in particular, a leader and manager of engineering processes. You will be capable of undertaking management level roles in operations management, quality control management, logistics, enterprise resource planning, supply chain management and other specialised engineering fields.

Recently, three new majors have been introduced to the Master of Professional Engineering:

As a Civil Engineering graduate, you will be able to join senior roles in the building, construction, infrastructure and mining industries. You will be able to provide structural analyses and design services to civil engineering projects such as roads, tunnels, bridges, high-rise buildings, and water distribution.

As a Civil and Management graduate, you will be able to become a specialist engineering manager within your chosen professional field, in particular, leaders and managers of engineering processes. You will be capable of undertaking management level roles in operations management, quality control management, logistics, enterprise...
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resource planning, supply chain management and other specialised engineering fields.

As a Civil and Construction graduate, you will be able to solve complex problems dealing with the design, building and maintenance of civil infrastructures such as buildings, roads, bridges, water and energy systems, waste networks, and much more. You will have insight into sustainability regarding rising populations and global warming.

Professional recognition
Our Master of Professional Engineering is provisionally accredited by Engineers Australia. Professional accreditation allows you to work as a professional engineer in countries that are signatories of the Washington Accord.

Fees
FEE-HELP
You may be eligible for FEE-HELP, a loan scheme to help you pay your course fees, if you are an Australian citizen or hold an Australian permanent humanitarian visa. For other conditions read the FEE-HELP information.

Student Services and Amenities Fee
You’ll need to pay the student services and amenities fee as part of your course costs. You may be eligible for SA-HELP, a loan scheme to help you pay your student services and amenities fee, if you are an Australian citizen or hold an Australian permanent humanitarian visa. For other conditions read the SA-HELP information.

This information has been prepared for Australian and New Zealand citizens and those with Australian permanent resident status. Some courses are not open to international students, and entry requirements and fee information may be different. For more information and to check if a course is available, international students should visit www.qut.edu.au/international. Last updated on: 16/06/2020. Information contained in this document was correct at the time of printing. The university reserves the right to amend any information, and to cancel, change or relocate any course. CRICOS No.00213J