Master of Engineering (Structures and Forensics)

Develop your structural engineering skills and explore ways to deal with complex structural challenges.

The program is specially designed to up-skill your existing structural engineering capabilities, allowing you to specialise in emerging advanced methods of structural materials and design practices.

You’ll gain expertise in structural forensics and methods of extending the life expectancy of existing structures.

In past 50 years, structural engineering has focused on creating new landmark structures including bridges, buildings, dams, seaports and tunnels.

However, a need has emerged to manage existing infrastructure, predict and extend the life expectancy of structures and minimise the risk of failure and associated catastrophes.

The program addresses this gap in knowledge and will open up new career opportunities. It also provides professional development and career stability, allowing you to specialise with an advanced structural engineering qualification.

Learning and teaching
This program blends lectures and workshop sessions, online forums and team-based activities.

Lectures and tutorials are typically delivered in the evening.

You will have access to online resources through the myRMIT student portal. RMIT offers a variety of learning and teaching approaches including lectures, seminars, workshops, presentations, group discussions and syndicate work.

Ongoing assessment throughout the semester includes examinations, essays, reports, oral classes, presentations, group projects, research projects, laboratory projects and practical assignments.

Industry connections
RMIT University is committed to providing you with an education that strongly links formal learning with professional practice.

You’ll undertake a range of work-integrated learning activities, including a final research thesis based on industry-relevant research.

Career outlook
Graduates find employment with structural engineering consultants, local councils, road authorities, civil infrastructure design consultants, asset managers, engineering consultants and assets managers in the mining industry.

www.rmit.edu.au/programs/mc207
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Program structure
You’ll collaborate on practical projects and research-based learning in areas of urban, commercial and civil infrastructure, specialising in:
- design of future urban infrastructure
- practice of advanced structural assessment, refurbishment and retrofitting existing structures
- structural failures, forensics engineering and lessons learned
- dynamic response of structures and post-elastic performance under extreme loading environments
- systems engineering for structural engineers and asset managers to analyse complex systems
- ethics, liability and law.

You’ll extend your views of the role of future structural engineers in designing, maintaining and assessing resilient and sustainable urban infrastructure.

You will also have the opportunity to conduct an industry-relevant and industry-supported research project to specialise in one of the above areas of your choice.

You will complete the following core courses:

**Advanced Structural Assessment**
You will be introduced to the techniques and processes adopted in assessment of existing structures covering structural inspections, estimation of loads, understanding current state of material and structural properties using non-destructive techniques, establishing a limit state for analysis and advanced computational techniques for assessment of structural robustness and resilience.

**Research Methods**
This course represents the initiation phase of a research project. You will plan your project, conduct a critical review of relevant published material and undertake sufficient work to produce some initial findings.

**Forensic Engineering (Structural)**
Using major structural failures as case studies and tools for learning, this course will introduce you to the life cycle of creation and operation of major civil structures with a focus on elements that have the potential to cause a catastrophe.

**Research Project**
This course involves a significant research project sourced from industry and addressing a major structural forensics-related research question. The project will have an industry consultant as a co-supervisor.

And complete the following two courses:
- Structural Refurbishment and Retrofitting
- Vibration and Dynamic Response of Structures.

And complete one from the following:
- Ethics and Legal Studies
- Design of Tall Buildings and Urban Habitat
- Systems Engineering for Civil Engineers.

How to apply
Direct to RMIT University:
rmit.edu.au/programs/apply/direct

**Semester 1, 2017**
- Applications open 14 August 2016
- Timely applications close 10 November 2016

**Semester 2, 2017**
- Applications open 1 May 2017
- Timely applications close 31 May 2017

Late applications will continue to be accepted after this date if places are still available.

Entry requirements
- An Engineers Australia accredited four-year bachelor of engineering degree in civil engineering, at AQF level 8 or equivalent, that satisfies Engineers Australia’s Stage 1 competency standards with a GPA of at least 2.0 out of 4.0, or equivalent
- A four-year international bachelor of engineering degree in civil engineering, or equivalent, recognised by the Washington Accord, where qualifications are considered equivalent to Australian engineering programs fully accredited by Engineers Australia, with a GPA of at least 2.0 out of 4.0

OR
- An Engineers Australia accredited four-year bachelor of engineering degree, in civil engineering or equivalent, that satisfies Engineers Australia’s Stage 1 competency standards and a minimum of one year of relevant industry experience, or equivalent. The grade and discipline will be considered on a case-by-case basis
- A four-year bachelor of engineering degree that satisfies the above condition, but the title does not specify the specialisation is in civil engineering, however, relevant structural engineering prerequisites have been completed in undergraduate studies.

Such applicants will be considered on a case-by-case basis.

Fees
**2017 indicative fees**
- Commonwealth supported places (CSPs) range from AU$6,349 to AU$10,596
- Full-fee: AU$29,760 per annum

How much you’ll pay will depend on whether you’re offered a Commonwealth supported place or a full-fee place. Entry for this program is primarily through CSPs. Government financial assistance is available to eligible students regardless of the type of place you enrol in.

Fees shown above apply to 2017 only and are based on an annual full-time study load of 96 credit points unless otherwise noted.

A proportionate fee applies for more or less than the full-time study load. Tuition fees are adjusted on an annual basis and these fees should only be used as a guide.

For more information and to learn how to calculate your exact tuition fees see:
rmit.edu.au/programs/fees/postgraduate

This information is designed for Australian and New Zealand citizens and permanent residents of Australia.

Disclaimer: Every effort has been made to ensure the information contained in this publication is accurate and current at the date of printing. For the most up-to-date information, please refer to the RMIT University website before lodging your application. Visit www.rmit.edu.au