746ST Master of Engineering Structures

Year and Campus:	2016 - Parkville
CRICOS Code:	053355A
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Level:	Graduate/Postgraduate
Duration & Credit Points:	100 credit points taken over 12 months full time. This course is available as full or part time.
Coordinator:	Associate Professor Nelson Lam ntkl@unimelb.edu.au

Contact:	Melbourne School of Engineering
	
	Currently enrolled students:
	
	  # General information: **https://ask.unimelb.edu.au (https://ask.unimelb.edu.au/)**
	  # **Contact Stop 1 (http://students.unimelb.edu.au/stop1)**
	
	Future students:
	
	  # Further information: ***Degree Structure***
	  # Email: **Enquiry Form**

Course Overview:	The Graduate Program in Engineering Structures is designed to meet the needs of graduates involved in disciplines associated with the advanced design of engineering structures. The Program includes contemporary issues such as ecologically sustainable buildings and the design of structures for extreme loading, such as earthquake, wind, blast and fire. Participants are also able to choose from a wide range of elective subjects including subjects focusing on project management and architecture. The major themes of this course are: structural systems, conceptual design, sustainable design, extreme loading and advanced analysis techniques.
Learning Outcomes:	The Master of Engineering Structures aims to produce graduates who are both skilled in structural engineering principles and have the ability to apply them to complex, open-ended engineering tasks and problems. On the successful completion of the Master of Engineering Structures students should have: 1 Gained advanced skills and knowledge in structural engineering principles which are in alignment with sustainable development; 2 Had the opportunity to develop research principles and methods in the field of structural engineering; 3 Cognitive skills to demonstrate mastery of theoretical knowledge and to reflect critically on theory and professional practice of structural engineering; 4 Cognitive, technical and creative skills to investigate, analyse and synthesise complex information, problems, concepts and theories and to apply established theories to different bodies of knowledge or practice in structural engineering; 5 Communication and technical research skills to justify and interpret theoretical propositions, methodologies, conclusions and professional decisions to engineering and non-engineering audiences; 6 Technical and communication skills to design, evaluate, implement, analyse, theorise about developments that contribute to professional practice or scholarship in the field of structural engineering. Graduates of Master of Engineering structures will demonstrate the application of knowledge & skills in many facets of structural engineering which encompasses design for sustainability and resilience to extreme conditions. 1 With creativity and initiative to new situations in professional practice and/or for further learning; 2 With high level personal autonomy and accountability; 3 To plan and execute a substantial piece of scholarship.

Course Structure & Available Subjects:	Students must complete 100 points. This consists of a 2 subjects (25 points) which are selected from the *Core Subjects*, a minimum of 3 subjects (37.5 points) from Structural Engineering selectives and up to 3 subjects are selected from the Infrastructure Engineering electives.
Subject Options:	(see below)

Core subjects

Must complete both of the core subjects. Total of 25 points.

Subject	Study Period Commencement:	Credit Points:
CVEN90024 High Rise Structures	Semester 1	12.50
CVEN90035 Structural Theory and Design 3	Semester 2	12.50

Structural Engineering Selectives

Select a minimum of 3 subjects from the following list. Total of 37.5 points.

The remaining subjects could be selected from the Infrastructure Engineering Electives.

Subject	Study Period Commencement:	Credit Points:
CVEN90017 Earthquake Resistant Design of Buildings	Semester 1	12.50
CVEN90026 Extreme Loading of Structures	Semester 1	12.50
CVEN90016 Concrete Design and Technology	Semester 2	12.50
CVEN90018 Structural Dynamics and Modelling	Semester 2	12.50

Infrastructure Engineering Electives

Select up to 3 subjects from the following list. Total of 37.5 points.

Students may also choose one Infrastructure Engineering elective subject not in the list below. Research subjects are subject to approval.

Subject	Study Period Commencement:	Credit Points:
CVEN90043 Sustainable Infrastructure Engineering	Semester 1	12.50
ENEN90031 Quantitative Environmental Modelling	Semester 1	12.50
ENEN90033 Solar Energy	Semester 1	12.50
ENEN90027 Energy for Sustainable Development	Semester 1	12.50
ENGM90007 Project Management Practices	Semester 1	12.50
CVEN90045 Engineering Project Implementation	Semester 2	12.50
CVEN90027 Geotechnical Applications	Semester 2	12.50
CVEN90062 Building Information Modeling	Semester 2	12.5
ENEN90011 Energy Efficiency Technology	Semester 2	12.50
ENEN90014 Sustainable Buildings	September	12.50
ENGM90006 Engineering Contracts and Procurement	Semester 2	12.50
CVEN90056 IE Research Project 3	Semester 1, Semester 2	12.50
CVEN90022 IE Research Project 1	Semester 1, Semester 2	12.50
CVEN90047 IE Research Project 2	Semester 1, Semester 2	25

| CVEN90063 Transport System Modelling | Not offered 2016 | 12.5 |

Entry Requirements:	1. In order to be considered for entry, applicants must have completed: • either – a 4 year degree in structural engineering with a weighted average mark of at least H3 (65%), or equivalent, or – a 4 year degree in civil engineering with a weighted average mark of at least H3 (65%), or equivalent, and either one year of documented, relevant work experience, or 30% of the final year of the degree dedicated to structural engineering subjects, or – a 3 year undergraduate degree in structural engineering with a weighted average mark of at least H3 (65%), or equivalent, and at least two years documented relevant work and/or professional experience since graduation; or – a 3 year undergraduate degree in civil engineering with a weighted average mark of at least H3 (65%), or equivalent, and at least three years of documented relevant work and/or professional experience since graduation. Meeting these requirements does not guarantee selection. 2. In ranking applications, the Selection Committee will consider: • prior academic performance; and where relevant • the professional experience. 3. The Selection Committee may seek further information to clarify any aspect of an application in accordance with the Academic Board **rules (http://about.unimelb.edu.au/__data/assets/ pdf_file/0007/1413727/Use-of-Selection-Instruments-Rules-of-the-Acdemic-Board-23- March-2015.pdf)** on the use of selection instruments. 4. Applicants are required to satisfy the university's English language requirements for postgraduate courses. For those applicants seeking to meet these requirements by one of the standard tests approved by the Academic Board, **performance band 6.5 (http:// about.unimelb.edu.au/academicboard/resolutions)** is required. Additional notes for the Handbook For more information on meeting the University's English language requirements, see: **http://futurestudents.unimelb.edu.au/info/international/ english_and_foundation_programs (http://futurestudents.unimelb.edu.au/info/ international/english_and_foundation_programs)**
Core Participation Requirements:	For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Student Support and Engagement Policy, academic requirements for this subject are articulated in the Subject Overview, Learning Outcomes, Assessment and Generic Skills sections of this entry. It is University policy to take all reasonable steps to minimise the impact of disability upon academic study, and reasonable adjustments will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact on meeting the requirements of this subject are encouraged to discuss this matter with a Faculty Student Adviser and Student Equity and Disability Support: http:// services.unimelb.edu.au/disability
Graduate Attributes:	The Melbourne School of Engineering closely maps subject level attributes and knowledge to align with the Australian Qualifications Framework (AQF), whilst also aligning with Attributes of the University of Melbourne Graduate, Engineers Australia competencies and its own School attributes.