

746BU Master of Engineering Structures

Year and Campus:	2014
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
Coordinator:	Associate Professor Nelson Lam ntkl@unimelb.edu.au
Contact:	<p>Melbourne School of Engineering Ground Floor, Old Engineering (Building 173) Current students: Email: 13MELB@unimelb.edu.au (mailto:13MELB@unimelb.edu.au) Phone: 13MELB (13 6352) +61 3 9035 5511</p> <p>Prospective students: Visit Master of Engineering Structures (http://www.eng.unimelb.edu.au/study/graduate/master-structures-eng.html)</p>
Course Overview:	<p>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.</p>
Learning Outcomes:	<p>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.</p> <p>On the successful completion of the Master of Engineering Structures students should have:</p> <ol style="list-style-type: none"> 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. <p>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.</p> <ol style="list-style-type: none"> 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:	<p>Students must complete 100 points. This consists of a 2 subjects (25 points) which are selected from the <i>Core Subjects</i>, a minimum of 3 subjects (37.5 points) from Structural Engineering selectives and up to 3 subjects are selected from the Infrastructure Engineering electives.</p>

Subject Options:**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.

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	Not offered 2014	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
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

Entry Requirements:

The Selection Committee will evaluate the applicant's ability to pursue successfully the course using the following criteria:

- # A 4 year degree in structural engineering with at least H3 (65%) average or equivalent
- # A 4 year degree in civil engineering with at least H3 (65%) average or equivalent and one years work experience; or 30% of the final year of the degree dedicated to structural engineering subjects

	<p># A 3 year undergraduate degree in structural engineering with at least H3 (65%) average or equivalent and at least two years of documented degree related professional work experience post graduation</p> <p># A 3 year undergraduate degree in civil engineering with at least H3 (65%) average or equivalent and at least three years of documented degree related professional work experience post graduation</p> <p>The Selection Committee may conduct interviews and tests and may call for referee reports and employer references to elucidate any of the matters referred to above.</p> <p>Language Requirements</p> <p>All students studying at the University of Melbourne must satisfy the University's English language entry requirements in accordance with Selection Principles: Regulation 11.1.A2 – Admission and Selection to Courses.</p> <p>http://futurestudents.unimelb.edu.au/admissions/entry-requirements/language-requirements (http://futurestudents.unimelb.edu.au/admissions/entry-requirements/language-requirements)</p> <p>For graduate students the University's English language entry requirements are set out at: http://futurestudents.unimelb.edu.au/admissions/entry-requirements/language-requirements/graduate-toefl-ielts (http://futurestudents.unimelb.edu.au/admissions/entry-requirements/language-requirements/graduate-toefl-ielts)</p> <p>The University of Melbourne English Language Bridging Program (UMELBP)</p> <p>The UMELBP provides a direct English language pathway from Hawthorn-Melbourne to specific courses at the University of Melbourne. Students who have achieved an IELTS band 0.5 lower than their University of Melbourne course entry requirement may be able to proceed directly to their University studies upon successful completion of the UMELBP. More information is available from the Hawthorn Melbourne website.</p> <p>http://www.hawthornenglish.com/ (http://www.hawthornenglish.com/)</p> <p>The Melbourne School of Engineering's English Language alternative may affect the duration and cost of your course</p> <p>http://www.eng.unimelb.edu.au/study/english-requirements.html (http://www.eng.unimelb.edu.au/study/english-requirements.html)</p>
<p>Core Participation Requirements:</p>	<p><p>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.</p> <p>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</p></p>
<p>Graduate Attributes:</p>	<p>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.</p>