

CVEN90026 Extreme Loading of Structures

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2010, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 3 hours lectures and 12 hours workshops per week. Total 48 hours Total Time Commitment: 120 hours for the semester
Prerequisites:	# Admission to Master of Engineering (Structural Engineering) OR # Master of Engineering (Civil Engineering) OR # Master of Engineering Structures
Corequisites:	None
Recommended Background Knowledge:	421-503 Structural Theory and Design 2 commences 2011
Non Allowed Subjects:	None
Core Participation Requirements:	For the purposes of considering request for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Students Experiencing Academic Disadvantage Policy, academic requirements for this subject are articulated in the Subject Description, Subject Objectives, Generic Skills and Assessment Requirements of this entry. The University is dedicated to provide support to those with special requirements. Further details on the disability support scheme can be found at the Disability Liaison Unit website: http://www.services.unimelb.edu.au/disability/
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Subject Overview:	At the conclusion of this subject students should be capable of modelling a variety of abnormal loads based on advanced concepts for structural engineering analyses and integrating the modelling methodologies with modern design philosophies and performance based principles. Topics include design loads philosophies and codification issues, and modelling loadings arising from earthquakes, blasts, impact, wind, waves and floor vibrations.
Objectives:	On successful completion students should be able to # Use risk analysis techniques to inform performance based design criteria # Use numerical techniques to model both the loading and response of structures to the transient actions of earthquake ground shaking, accidental impact, strong wind, water waves and blast # Assess the output to these models to inform the design process for safety and serviceability
Assessment:	One three hour end of semester examination (70%) Two 1000 word assignments, one due in week 8, the other due towards the end of semester (15% each)
Prescribed Texts:	None

Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	<ul style="list-style-type: none"># Ability to apply knowledge of science and engineering fundamentals# Ability to undertake problem identification, formulation, and solution# Ability to utilise a systems approach to complex problems and to design and operational performance# Proficiency in engineering design# Capacity for creativity and innovation# Understanding of professional and ethical responsibilities, and commitment to them
Related Course(s):	Graduate Certificate in Engineering (Environmental Engineering) Master of Engineering Structures Master of Engineering Structures Postgraduate Certificate in Engineering