CVEN90024 High Rise Structures

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	This subject is not offered in 2013.
Time Commitment:	Contact Hours: 48 hours. Comprising of 28 hours of lectures and 20 hours of workshops Total Time Commitment: 120 hours
Prerequisites:	Admission to Master of Engineering Structures OR

Subject	Study Period Commencement:	Credit Points:
CVEN30009 Structural Theory and Design	Not offered 2013	12.50

Corequisites:	None
Recommended Background Knowledge:	Knowledge gained in the following subject will assist learning:

Subject	Study Period Commencement:	Credit Points:
CVEN90049 Structural Theory and Design 2	Not offered 2013	12.50

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 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
Contact:	Prof Priyan Mendis **pamendis@unimelb.edu.au (mailto:pamendis@unimelb.edu.au)**
Subject Overview:	This subject introduces students to the special requirements necessary for the successful design of high rise buildings. Topics covered include: structural floor, framing and foundation systems, wind including wind tunnel testing and earthquake loading, analysis techniques including computer-aided analysis, vertical movements and second order effects, facade design, construction methods, sustainability concepts and a review of case study buildings
Objectives:	On successful completion of this subject students should be able to: # Describe the multi-disciplinary nature of designing a tall building and the role of a structural engineer in the design of tall buildings # Describe the design criteria and loading conditions for buildings # Develop conceptual designs of floors using different floor systems # Develop conceptual designs of lateral load resisting systems for buildings # Calculate dynamic wind loads on tall buildings using the dynamic response factor approach # Interpret wind tunnel test results to obtain equivalent wind loads # Calculate the serviceability acceleration levels in tall buildings responding to wind loading # Develop approximate models for analysing structural systems in buildings

	# Develop computer models for analysing structural systems in buildings # Develop conceptual designs of foundation systems for different buildings and soil types # Identify different facade systems commonly used in building structures # Identify and analyse different structural systems using case study buildings
Assessment:	Two 1000 word assignments, due in week 6 and towards the end of the semester (15% each) One 3-hour examination, end of semester (70%)
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:	# 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 # Ability to conduct an engineering project # Ability to communicate effectively, with the engineering team and with the community at large # Ability to manage information and documentation # Capacity for creativity and innovation # Understanding of professional and ethical responsibilities, and commitment to them # Ability to function effectively as an individual and in multidisciplinary and multicultural teams, as a team leader or manager as well as an effective team member # Capacity for lifelong learning and professional development
Related Course(s):	Bachelor of Engineering (Civil Engineering) Master of Engineering Structures Master of Engineering Structures Master of Philosophy - Engineering Ph.D.- Engineering Postgraduate Certificate in Engineering
Related Majors/Minors/ Specialisations:	B-ENG Civil Engineering stream Master of Engineering (Civil) Master of Engineering (Structural)