

## 421-694 Advanced Design of High Rise Structures

<b>Credit Points:</b>	12.50
<b>Level:</b>	9 (Graduate/Postgraduate)
<b>Dates &amp; Locations:</b>	2009, This subject commences in the following study period/s: Semester 1, - Taught on campus.
<b>Time Commitment:</b>	Contact Hours: 36 Hours; Non contact time commitment 84 Hours Total Time Commitment: Not available
<b>Prerequisites:</b>	421-317 Structural Engineering 2
<b>Corequisites:</b>	None
<b>Recommended Background Knowledge:</b>	None
<b>Non Allowed Subjects:</b>	None
<b>Core Participation Requirements:</b>	<p>&lt;p&gt;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.&lt;/p&gt;         &lt;p&gt;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: &lt;a href="http://services.unimelb.edu.au/disability"&gt;http://services.unimelb.edu.au/disability&lt;/a&gt;&lt;/p&gt;</p>
<b>Coordinator:</b>	Assoc Prof Nicholas Haritos
<b>Contact:</b>	Assoc Prof Nicholas Haritos Department of Civil and Environmental Engineering Phone:+61 3 8344 6829 Email: nharitos@unimelb.edu.au
<b>Subject Overview:</b>	This subject introduces students to the special requirements necessary for the successful design of building structures. Topics covered include: structural floor, framing and foundation systems, environmental actions from thermal and wind including wind tunnel testing; analysis techniques including computer-aided analysis, vertical movements and second order effects, facade design, construction methods, and a review of case study buildings.
<b>Objectives:</b>	<p>On successful completion, students should be able to:</p> <ul style="list-style-type: none"> <li># describe the multi-disciplinary nature of designing a tall building and the role of a structural engineer in the design of tall buildings</li> <li># describe the design criteria and loading conditions for buildings</li> <li># develop conceptual designs of floors using different floor systems</li> <li># develop conceptual designs of lateral load resisting systems for buildings</li> <li># calculate dynamic wind loads on tall buildings using the dynamic response factor approach</li> <li># interpret wind tunnel test results to obtain equivalent wind loads</li> <li># calculate the serviceability acceleration levels in tall buildings responding to wind loading</li> <li># develop approximate models for analysing structural systems in buildings</li> <li># develop computer models for analysing structural systems in buildings</li> <li># develop conceptual designs of foundation systems for different buildings and soil types</li> <li># identify different facade systems commonly used in building structures</li> <li># identify and analyse different structural systems using case study buildings</li> </ul>
<b>Assessment:</b>	One 3-hour examination (70%) and one assignment of 3000 words equivalent (30%).

<b>Prescribed Texts:</b>	None
<b>Breadth Options:</b>	This subject is not available as a breadth subject.
<b>Fees Information:</b>	Subject EFTSL, Level, Discipline & Census Date, <a href="http://enrolment.unimelb.edu.au/fees">http://enrolment.unimelb.edu.au/fees</a>
<b>Generic Skills:</b>	
<b>Notes:</b>	This subject replaces: CVEN40022 (421-496) High Rise Structures
<b>Related Course(s):</b>	Master of Engineering Structures Master of Water Resource Management