421-440 Steel & Concrete Design

Credit Points:	12.500
Level:	Undergraduate
Dates & Locations:	2008, This subject commences in the following study period/s: Semester 2, - Taught on campus.
Time Commitment:	Contact Hours: 18 hours lectures, 5 tutorials, 1 video lab and 24 hours of formal design classes Total Time Commitment: Not available
Prerequisites:	421-307 Structural Engineering 1 421-317 Structural Engineering 2
Corequisites:	None
Recommended Background Knowledge:	None
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
Coordinator:	Emad Gad
Subject Overview:	This subject integrates structural theory and design. Topics covered include theory behind brittle fracture and fatigue of steel structure; design of steel connections; idealised frame method of slab design; flat plates and slabs; punching shear; partially pre-stressed beams and slabs; procedures and processes involved in the design of steel and concrete structures. Two group design projects will allow students to practice their design skills.
Assessment:	One group assignment (2,000 words per student equivalent) in the first half of semester (30%), and one group assignment (1,000 words per student equivalent) in the second half of semester (15%), one lab assignment (5%), one 3-hour exam (end of semester, 50%). Passing of the exam is a hurdle requirement of the subject. Team cooperation and contributions will be taken into account in awarding individual marks for team outcomes.
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:	# knowledge of science and engineering fundamentals # in-depth technical competence in at least one engineering discipline # 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 manage information and documentation # capacity for creativity and innovation
Notes:	Special computer requirements: Spacegass software

Related Course(s):	Bachelor of Engineering (Civil Engineering) Bachelor of Engineering (Civil) and Bachelor of Arts Bachelor of Engineering (Civil) and Bachelor of Commerce Bachelor of Engineering (Civil) and Bachelor of Laws Bachelor of Engineering (Civil) and Bachelor of Science Bachelor of Engineering (EngineeringManagement) Civil