746-ST Master of Engineering Structures

Year and Campus:	2008
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Level:	Graduate/Postgraduate
Duration & Credit Points:	
Contact:	Course Coordinator Assoc. Professor Nelson Lam E: ntkl @unimelb.edu.au Faculty of Engineering Rebecca Randall E: r.randall@unimelb.edu.au
Course Overview:	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.
Objectives:	That a graduate of the program should: # have an advanced understanding of the theoretical and practical principles relating to their discipline; # have a well developed ability to evaluate and synthesise professional literature in their discipline; # have an advanced set of skills for problem solving techniques for design, implementation and management in their discipline; # have advanced working skills in the application of computer and software systems and new technologies in their profession; # have an advanced awareness of the social, cultural and environmental responsibilities of professionals in their discipline and the need for sustainable development; # have a sound attitude towards undertaking lifelong learning; # have a well developed capacity to engage with technological as well as socio-economic issues in contemporary society; # have a well developed capacity to understand and participate as an individual and in multi-disciplinary and multi-cultural teams either as a leader or as a team member
Course Structure & Available Subjects:	-
Subject Options:	**Core subjects:** 25 points

Subject	Study Period Commencement:	Credit Points:
421-670 Sustainable Buildings	Semester 2	12.50
421-694 Advanced Design of High Rise Structures	Semester 1	12.50

Restricted Elective Subjects: 37.5 points

Subject	Study Period Commencement:	Credit Points:
421-612 Earthquake Resistant Design of Buildings	Semester 1	12.50
421-613 Advanced Concrete Design and Technology	Semester 2	12.50
421-614 Structural Dynamics and Modelling	Semester 2	12.50
421-654 Principles of Asset Management	Semester 1	12.50
421-696 Structures for Blast, Impact and Fire	Semester 1	12.50
421-695 Extreme Loading of Structures	Semester 1	12.50

Electives

37.5 points of subjects chosen from **Electives** Table or such other subject as are approved by the Course Coordinator. (Not more than 25 points by research).

Subject	Study Period Commencement:	Credit Points:
175-501 Presenting Academic Discourse	Semester 1, Semester 2	12.50
421-505 Engineering Hydraulics	Semester 1	12.50
421-511 Advanced Concrete Theory & Design	Not offered 2008	12.500
421-512 Structural Dynamics	Not offered 2008	6.250
421-513 Computer Aided Design (Masters)	Not offered 2008	6.250
421-514 General Structural Design	Not offered 2008	6.250
421-516 Hydraulics and Hydrology	Semester 2	12.50
421-517 Earthquake Engineering (Masters)	Not offered 2008	6.250
421-518 Applied Hydrology	Not offered 2008	6.250
421-519 Design of Environmental Systems	Semester 2	12.50
421-520 Canal Hydraulics	Not offered 2008	6.250
421-521 Coastal Engineering	Not offered 2008	12.500
421-522 Environmental Engineering Design	Semester 2	12.50
421-523 Occupational Health and Safety Basics	Semester 1, Semester 2	12.50
421-525 Field Data Acquisition and Analysis	Semester 1	12.50
421-539 Geotechnical Applications	Semester 2	12.50
421-547 Transport Engineering (Masters)	Not offered 2008	12.500
421-548 Transport Systems (Masters)	2	12.500
421-553 Engineering Systems Management (Masters)	1	12.500
421-580 Hydrological Processes 1	Semester 1	12.50
421-581 Hydrological Processes 2	Semester 1	12.50
421-602 Air Quality Control	Semester 1	12.50
421-604 Environmental Management ISO 14000	Semester 2	12.50
421-605 Managing Water Borne Risks	Semester 2	12.50
421-606 Solid Wastes to Sustainable Resources	Semester 1	12.50
421-609 Technology in Society	Semester 1	12.50
421-616 Technology Assessment	Semester 1	12.50
421-619 Energy for Sustainable Development	Semester 2	12.50
421-624 Special Studies In Hydraulic Eng.	Not offered 2008	12.500
421-625 Case Studies in Development Technologies	2	12.500
421-626 Design of Energy Systems	Semester 2	12.50

421-627 Sustainable Water Resources Management	Semester 2	12.50
421-629 Energy Efficiency Technology	Semester 2	12.50
421-636 Applied Fortran Programming	Semester 2	12.50
421-637 Indoor Environment Quality	Not offered 2008	12.500
421-640 Water Supply and Waste Water Management	Semester 1	12.50
421-642 Research Topic	Semester 1, Semester 2	12.50
421-643 Research Investigation	Semester 1, Semester 2	25
421-644 Research Project	Semester 1, Semester 2	50
421-648 Water Sources of Energy	Not offered 2008	12.500
421-649 Special Studies	Semester 1, Semester 2	12.50
421-650 Preliminary Studies	Semester 1, Semester 2	12.50
421-654 Principles of Asset Management	Semester 1	12.50
421-663 Engineering Project Management	Semester 1	12.50
421-664 Project Delivery	Semester 2	12.50
421-666 Management of Project Resources	Semester 2	12.50
421-667 Project Management Practices	Semester 2	12.50
421-668 Sustainable Irrigation System Management	Semester 1	12.50
421-670 Sustainable Buildings	Semester 2	12.50
421-671 Financial Analysis of Complex Projects	Semester 1	12.50
421-672 Management of Technological Enterprises	Semester 1	12.50
421-673 Sustainable Supply Chain Management	Semester 2	12.50
421-680 Engineering for Sustainable Environments	Summer	12.50
421-681 Management for the Environment	Semester 2	12.50
421-682 Engineering Systems Management	Semester 2	12.50
421-683 Principles of Public Private Partnership	2	12.500
421-692 Biological Systems Engineering	Semester 2	12.50
421-693 Anatomy & Physiology for Engineers	Semester 2	12.50
421-694 Advanced Design of High Rise Structures	Semester 1	12.50
421-695 Extreme Loading of Structures	Semester 1	12.50
421-696 Structures for Blast, Impact and Fire	Semester 1	12.50
421-697 Heating, Ventilation and Airconditioning	Semester 1	12.50
421-699 Forces, Fields and Flows in Bio Systems	Semester 1	12.50
421-825 Energy from Biomass and Wastes	Not offered 2008	12.500

Entry Requirements:	The **academic requirements** for admission to the Masters program are: 4 year degree in engineering or science in a relevant discipline with an average grade of at least 65% or via pathway (average grade equivalent to at least 65% at the University of Melbourne) **Language Requirements** International students and students whose prior qualifications are from a university where English is not the official language of instruction and examination need to supply proof of academic English language competency. Proof acceptable to the University includes: Original evidence of an English Language test score at a sitting within the last 24 months of either - TOEFL - at least 577 and a TWE of at least 4.5 (paper based) or a TOEFL of at least 233 with an Essay Rating of at least 4.5 (computer based) **or** IELTS - at least 6.5. (A minimum band score of 6 is required in the Academic Writing module). Entry under a slightly lower Engineering alternative* English Language entry requirement is available as follows: TOEFL - at least 550, with a TWE of 4 or the computer based TOEFL of at least 213 with an Essay Rating Score of at least 4 and agreeing in writing to undertake and pass an ESL subject in the first semester of study at the University of Melbourne **or** IELTS - at least 6 and agreeing in writing to undertake and pass an ESL subject in the first semester of study at the University of Melbourne. * The Faculty of Engineering's English Language alternative may affect the duration and cost of your course.
Core Participation Requirements:	-
Graduate Attributes:	-
Generic Skills:	-