CVEN90059 Integrated Design - Infrastructure

Credit Points:	12.5
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2015, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 12 hours of project briefings over the first 8 weeks of semester Total Time Commitment: 200 hours
Prerequisites:	

Subject	Study Period Commencement:	Credit Points:
CVEN30010 Systems Modelling and Design	Semester 2	12.50
CVEN90043 Sustainable Infrastructure Engineering	Semester 1	12.50
CVEN90044 Engineering Site Characterisation	Semester 1	12.50
CVEN90045 Engineering Project Implementation	Semester 2	12.50

Corequisites:	None
Recommended Background Knowledge:	This subject should be taken in the final or penultimate semester of study in the Master of Engineering degree
Non Allowed Subjects:	

Subject	Study Period Commencement:	Credit Points:
CVEN90052 Integrated Design	Not offered 2015	25

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:	Assoc Prof Russell Thompson
Contact:	Associate Professor Russell Thompson **rgthom@unimelb.edu.au (mailto:rgthom@unimelb.edu.au)**
Subject Overview:	**AIMS** This subject involves a major design project that concentrates on preparing a design proposal for a larger spatial scale infrastructure system such as a suburban precinct, a transport system for a small city, or a precinct level water and renewable energy supply system. The preparation of a feasibility study or conceptual design report will be the key deliverable for this subject. Students would work in small teams and receive guidance from experienced engineers in preparing the infrastructure design proposal, which would concentrate on scoping a design to meet societal needs.

Learning Outcomes:	**INTENDED LEARNING OUTCOMES** Having completed this subject the student is expected to: 1 Conduct thorough investigations to scope an engineering design problem 2 Generate alternative solutions to meet infrastructure needs 3 Assess and choose optimal engineering solutions using a multi-criteria assessment incorporating net present value, social and environmental considerations 4 Demonstrate ability to work in a team to design a complex engineering project with definite deliverables and completion dates 5 Apply core management techniques to the team activities 6 Communicate conceptual design solutions via written and oral reports.
Assessment:	In pairs, present & participate in 5-minute oral reports on an aspect of the project context requiring about 3 hours of work. Addresses Intended Learning Outcome (ILOs) 1 and 6. Due week 3 (5%) In pairs, publish a 4 page literature review on an aspect of the project context on the project web site requiring approximately 20 hours of work per person. Addresses ILOs 1 and 6. Due week 3 (10%) In teams of 4, prepare a preliminary report on the design criteria and options, and provide a critical review on the reports of two other teams, requiring about 60 hours of work per person. Addresses ILOs 2, 3 & 6. Due Week 6 and Week 7 (15%) In teams of 4, prepare a final design report, requiring about 100 hours of work per person. Addresses ILOs 3, 4, 6). Due Week 12 (60%) In teams of 4, maintain a weekly project management log, requiring about 10 hours of work per person. Addresses ILO 5. Due Weekly (10%).
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 undertake research and apply critical thought to formulate engineering solutions # Potential for innovation and creativity # Proficiency in report writing # Capacity to summarise and present design concepts and outcomes # Understanding of how to engage with and work constructively and productively in an integrated multi-disciplinary team to achieve mutually agreed outcomes in a constrained time frame.
Related Course(s):	Master of Engineering Project Management
Related Majors/Minors/ Specialisations:	Master of Engineering (Civil with Business) Master of Engineering (Civil) Master of Engineering (Environmental) Master of Engineering (Structural)