

CVEN90059 Integrated Design - Infrastructure

Credit Points:	12.5																	
Level:	9 (Graduate/Postgraduate)																	
Dates & Locations:	2016, Parkville This subject commences in the following study period/s: Semester 1, Parkville - Taught on campus.																	
Time Commitment:	Contact Hours: 12 hours (Lectures/Workshops for project briefings: 12 hours per semester) Total Time Commitment: 200 hours																	
Prerequisites:	<table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>CVEN30010 Systems Modelling and Design</td> <td>Semester 2</td> <td>12.50</td> </tr> <tr> <td>CVEN90043 Sustainable Infrastructure Engineering</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>CVEN90044 Engineering Site Characterisation</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>CVEN90045 Engineering Project Implementation</td> <td>Semester 2</td> <td>12.50</td> </tr> </tbody> </table>			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
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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:	<table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>CVEN90052 Integrated Design</td> <td>Not offered 2016</td> <td>25</td> </tr> </tbody> </table>			Subject	Study Period Commencement:	Credit Points:	CVEN90052 Integrated Design	Not offered 2016	25									
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Core Participation Requirements:	<p><p>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.</p> <p>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</p></p>																	
Coordinator:	Assoc Prof Russell Thompson																	
Contact:	Associate Professor Russell Thompson rgthom@unimelb.edu.au (mailto:rgthom@unimelb.edu.au)																	
Subject Overview:	<p>AIMS</p> <p>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.</p>																	

Learning Outcomes:	<p>INTENDED LEARNING OUTCOMES</p> <p>On completion of this subject the student is expected to:</p> <ol style="list-style-type: none"> 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:	<p>In pairs, present & participate in 5-minute oral reports (5%) on an aspect of the project context, requiring about 3 hours of work. Due week 3. Intended Learning Outcome (ILOs) 1 and 6 are addressed in the reports In pairs, publish a 4 page literature review on an aspect of the project context on the project web site (10%) requiring approximately 20 hours of work per person. Due week 3. ILOs 1 and 6 are addressed in the review 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 (15%) requiring about 60 hours of work per person. Due week 6 and 7. ILOs 2, 3 and 6 are addressed in the report In teams of 4, prepare a final design report (60%) requiring about 100 hours of work per person. Due week 12. ILOs 3, 4 and 6 are addressed in the report In teams of 4, maintain a weekly project management log (10%) requiring about 10 hours of work per person. Due weekly. ILO 5 is addressed in the assessment.</p>
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:	<ul style="list-style-type: none"> # 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):	<p>Master of Architectural Engineering Master of Engineering Project Management</p>
Related Majors/Minors/Specialisations:	<p>Master of Engineering (Civil with Business) Master of Engineering (Civil) Master of Engineering (Environmental) Master of Engineering (Structural)</p>