

CVEN90056 IE Research Project 3

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. Semester 2, Parkville - Taught on campus.									
Time Commitment:	Contact Hours: 18 hours (Workshops: 6 hours per semester; Progress meetings/feedback by academic supervisors: 12 hours per semester) Total Time Commitment: 200 hours									
Prerequisites:	This subject, as a capstone of the Bachelor of Engineering (Civil) degree, can only be taken in the last semester of study. Only students with an average score of H1 in the previous 100 points of study (Bachelor of Engineering) or in the previous 50 points of study (Master of Engineering Structures) are allowed to undertake this subject. Students also need approval of the project supervisor (consultant academic) to be allowed to undertake this subject.									
Corequisites:	None									
Recommended Background Knowledge:	None									
Non Allowed Subjects:	When undertaking this subject students cannot gain credit for the following subjects: <table border="1" data-bbox="387 1055 1485 1256"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>CVEN90022 IE Research Project 1</td> <td>Semester 1, Semester 2</td> <td>12.50</td> </tr> <tr> <td>CVEN90047 IE Research Project 2</td> <td>Semester 1, Semester 2</td> <td>25</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	CVEN90022 IE Research Project 1	Semester 1, Semester 2	12.50	CVEN90047 IE Research Project 2	Semester 1, Semester 2	25
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CVEN90022 IE Research Project 1	Semester 1, Semester 2	12.50								
CVEN90047 IE Research Project 2	Semester 1, Semester 2	25								
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 Graham A. Moore									
Contact:	Associate Professor Graham Moore grahamam@unimelb.edu.au (mailto:grahamam@unimelb.edu.au)									
Subject Overview:	<p>AIMS</p> <p>This subject provides the capstone experience for students in Infrastructure Engineering. Students will combine their expertise in interdisciplinary groups or as individuals to address real-world problems, typically in contact with industry.</p> <p>Project topics will be advertised well in advance of commencement of the subject so that students can make an informed choice of topic and enrol early. Students must register their topic, group and supervisor before the subject commences.</p>									

	<p>INDICATIVE CONTENT</p> <p>The first half semester addresses research training and comprises online lectures and tutorials with group homework on topics such as project development, literature review, methodology development, skill development, critical thinking, project documentation, reflective writing, and scientific writing. Students will practise these skills throughout their project topics with supervisors providing feedback on the results.</p> <p>Students then continue the project within their groups and with regular progress meetings with their supervisor for the remainder of the year. The project culminates with students presenting their project and findings on a poster at a student expo and also in written form in the style of a conference paper.</p>
<p>Learning Outcomes:</p>	<p>INTENDED LEARNING OUTCOMES (ILO)</p> <p>On completion of this subject the student is expected to:</p> <ol style="list-style-type: none"> 1 Search, analyse and document engineering science and other literature in order to determine the need for further research in a chosen area 2 Devise a methodology of investigation to improve knowledge or understanding of a chosen topic 3 Collect and analyse a range of data (both qualitative and quantitative) and/or undertake model simulation to improve understanding of a chosen topic 4 Write a report that follows good engineering science practice 5 Present a poster and oral presentation on the investigation to an audience of peers.
<p>Assessment:</p>	<p>Project Proposal team report (20%) 1 to 4 people, outlining the context, literature review, methodology and method for their project, requiring 60 hours of work per person. Due mid semester. Passing is a hurdle requirement. Intended Learning Outcomes (ILOs) 1, 2 and 4 are addressed in this report Final team report (50%) in the style of a conference paper, and incorporating revised sections of the proposal report, not exceeding 15 pages excluding reference lists, requiring approximately 90 hours of work per team member. Due at the end of semester. ILOs 1, 2, 3 and 4 are addressed in this report Presentation of conference style team poster (10%) requiring approximately 6 hours total work and due during the end of semester exam period. ILO 5 is addressed in this assessment Presentation of a team oral presentation (10%) of approximately 15 minutes and participation in the subject conference, requiring approximately 5 hours per team member. Due during the end of semester exam period. ILO 5 is addressed in this presentation Individual journal (5%) containing reflections on the research process and progress, and the development of graduate attributes presented in 6 individual journal entries, totalling approximately 2000 words over the project period, and requiring about 10 hours or reflection, investigation and writing. ILOs 1, 2 and 3 are addressed in this journal A weekly factual record (5%) of project progress, including items such as meeting minutes, key decisions and resources used, must be maintained on a project blog and contributed to by all team members, requiring about 5 hours work each. For team projects the relative contributions of each team member to the overall project should be discernible from this record. ILOs 1, 2 and 3 are addressed in this assessment Weekly attendance (minimum of 70%) of the Departmental research seminars (or equivalent) in the project period, and completion of a critique form for each seminar will be evidence of attendance which will be marked Pass/Fail. Approximately 10 hours work. ILOs 1, 2, 3 and 5 are addressed in this assessment Registration for a project topic prior to day 1 of the first semester of study is a hurdle requirement, requiring about 2 hours of work. ILO 1 is addressed in this assessment Hurdle Requirements: The following must be satisfied in order to pass the subject: Students must register for a project topic prior to day 1 of the first semester of study Weekly attendance (minimum of 70%) of the Departmental research seminars (or equivalent) in the project period, and completion of a critique form for each seminar will be evidence of attendance which will be marked Pass/Fail A factual record of project progress including items such as meeting minutes, key decisions and resources used must be maintained on a project blog. For group projects the relative contributions of each group member to the overall project should be discernible from this record A Pass mark for the mid-project report.</p>
<p>Prescribed Texts:</p>	<p>None</p>
<p>Recommended Texts:</p>	<p>David Evans, Paul Gruba and Justin Zobel (2011) <i>How to Write a Better Thesis</i>. Melbourne University Press. Carlton, Vic.</p>
<p>Breadth Options:</p>	<p>This subject is not available as a breadth subject.</p>

Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	<ul style="list-style-type: none"> # Discernment of knowledge development and research directions within the engineering discipline # Ability to undertake problem identification, formulation and solution # Ability to communicate effectively, with the engineering team and with the community at large # Ability to manage information and documentation # Capacity for creativity and innovation # Understanding of professional and ethical responsibilities, and commitment to them.
Notes:	<p>LEARNING AND TEACHING METHODS</p> <ul style="list-style-type: none"> # Lectures and tutorials on research techniques # Fortnightly meetings with mentors and other students to discuss progress and problems # Independent research on a project, and communication of the results of that research. <p>INDICATIVE KEY LEARNING RESOURCES David Evans, Paul Gruba and Justin Zobel (2011) How to write a better thesis. Melbourne University Press. Carlton, Vic.</p> <p>CAREERS / INDUSTRY LINKS Some topics available for investigation are sponsored and supervised by industry partners. For students intending to develop a career in research, this subject represents a key subject and opportunity to demonstrate their talents.</p>
Related Course(s):	Master of Engineering Structures
Related Majors/Minors/Specialisations:	B-ENG Civil Engineering stream