

CVEN90019 Sustainable Water Resources Systems

Credit Points:	12.50						
Level:	9 (Graduate/Postgraduate)						
Dates & Locations:	This subject is not offered in 2013. Subject material is delivered intensively during the first six weeks of semester						
Time Commitment:	Contact Hours: 36 hours comprising of lectures, syndicate exercises and tutorials Total Time Commitment: 120 hours						
Prerequisites:	Admission to post graduate studies in engineering or related discipline OR <table border="1" data-bbox="387 517 1485 667"> <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>Not offered 2013</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	CVEN30010 Systems Modelling and Design	Not offered 2013	12.50
Subject	Study Period Commencement:	Credit Points:					
CVEN30010 Systems Modelling and Design	Not offered 2013	12.50					
Corequisites:	None						
Recommended Background Knowledge:	None						
Non Allowed Subjects:	None						
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>						
Contact:	Prof Hector Malano h.malano@unimelb.edu.au (mailto:h.malano@unimelb.edu.au) Dr Biju George biju@unimelb.edu.au (mailto:biju@unimelb.edu.au)						
Subject Overview:	This subject aims to analyse the key concepts underpinning the sustainable use of water within catchments and river basins. The subject focuses on the analysis of complex water resource systems that involve multiple sources of water supply and multiple water uses including agriculture, urban, industrial, recreation and the environment. Various systems of allocating water between multiple supplies and demands. Water accounting in time and space. The balance between economic and environmental uses of water. Topics include: <ul style="list-style-type: none"> # Water resource planning and management # Water supply # Wastewater and drainage # Integrated water resources management -river catchments and basins # Environmental demand # Water resource economics # Principles of water resource modelling: optimisation and simulation 						
Objectives:	On completion of this subject students should be able to:						

	<ul style="list-style-type: none"> # Identify and describe the physical elements of a water resource system and its interactions # Identify and describe the principles of allocation between different uses under conditions of scarcity # Identify and describe the key elements involved in modelling water resource systems # Describe and apply the principles and applications of water resource accounting # Describe and apply the concept of integrated water resources management # Identify the economic, environmental and social factors involved in the sustainable development and management of water resources
Assessment:	One 3000 word group assignment (35%) Five 600 word research paper critiques (15%) One 4000 word individual assignment (40%) In-class participation (10%) Students must pass the 4000 word individual assignment in order to pass the subject.
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 problem identification, formulation, and solution # Understanding of social, cultural, global, and environmental responsibilities and the need to employ principles of sustainable development # Ability to utilise a systems approach to complex problems and to design and operational performance # Ability to communicate effectively, with the engineering team and with the community at large # Capacity for creativity and innovation # Ability to function effectively as an individual and in multidisciplinary and multicultural teams, as a team leader or manager as well as an effective team member
Related Course(s):	Master of Environmental Engineering Master of Environmental Engineering Master of Philosophy - Engineering Ph.D.- Engineering Postgraduate Certificate in Engineering
Related Majors/Minors/Specialisations:	Development Integrated Water Catchment Management Master of Engineering (Civil) Master of Engineering (Environmental) Master of Engineering (Geomatics) Sustainable Cities, Sustainable Regions Sustainable Forests