421-519 Design of Environmental Systems

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2009, This subject commences in the following study period/s: Semester 2, - Taught on campus.
Time Commitment:	Contact Hours: Twelve hours of lectures, thirty-six hours of design classes and three-hours of site visits. Total Time Commitment: Not available
Prerequisites:	None
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
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
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Subject Overview:	In this subject, students develop and practice their capabilities of problem identification and finding solution for a broad range of practical problems they will encounter in their career. Typical problems may include irrigation and drainage design, hydrogeological problems such as landfill containment, catchment management, stream rehabilitation and rehabilitation of degraded land such as mine sites. Particular emphasis will be placed on how projects are managed/implemented within each working group and how group members are making coordinated efforts to achieve the design goals.
Objectives:	This subject aims to provide students with training and experience of problem solving and resources management by assigning them to a range of engineering problems that require group-based work.
Assessment:	Three written group reports and participation (30% each), and one assignment (10%) not exceeding 20 pages each inclusive of diagrams, tables, computations and computer output). Students must attend the site visit.
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 identify the dominant processes in time and space that govern the flux of water, soil and/or other environmental variables for a given scenario.

	# Ability to describe integrated conceptual and/or mathematical models of the dominant processes. # Given basic data about the scenario, capability to generate predicted states of the system as a result of natural or anthropogenic disturbances to the system. # Ability to interpret the predicted states into a form useful for management decisions to be made about the system. # Ability to make coordinated efforts with group members to achieve project goals.
Notes:	This subject replaces: 421-482 Analysis & Design-Environmental Systems
Related Course(s):	Master of Development Technologies Master of Energy Studies Master of Engineering Project Management Master of Engineering Structures Master of Environmental Engineering Master of Water Resource Management