421-327 Computing for Land and Spatial Systems

Credit Points:	12.50
Level:	3 (Undergraduate)
Dates & Locations:	2009, This subject commences in the following study period/s: Semester 2, - Taught on campus.
Time Commitment:	Contact Hours: 24 hours of lectures, 24 hours of computer labs, and a one-day field trip (1st Saturday of non-teaching period). Total Time Commitment: Not available
Prerequisites:	All 200 level Engineering subjects
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
Coordinator:	Assoc Prof Jeffrey Phillip Walker
Contact:	Associate Professor Jeffrey Walker Department of Civil and Environmental Engineering Phone: + 61 3 8344 5590 Email: j.walker@unimelb.edu.au
Subject Overview:	Topics covered include use of remote sensing and geographical information systems in relation to environmental issues.
Objectives:	1. describe the capabilities and limitations of geographical information systems 2. use a geographical information system for environmental problems 3. describe the fundamental principles of remote sensing systems (including photogrammetry) and their limitations 4. apply remote sensing data to environmental problems 5. use GIS and spatial data to estimate erosion in a landscape 6. use a model to estimate sediment loads from a catchment
Assessment:	A 2-hour end of semester written examination (35%) and assignments throughout the semester totalling 5000 words (65%). Students must attend the field trip and submit all assignments and achieve a grade of at least 50% in the examination 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:	# ability to apply knowledge of basic science and engineering fundamentals

	# in-depth technical competence in at least one engineering discipline # ability to apply knowledge of basic science and engineering fundamentals # in-depth technical competence in at least one engineering discipline # abiity to undertake problem identification, formulation and solution # ability to function effectively as an individual and in multi-disciplinary and multi-cultural teams, with the capacity to be a leader or manager as well as an effective team member # capacity for independent critical thought, rational inquiry and self-directed learning
Notes:	This subject replaces: 421-327 Computing for Land and Spatial Systems
Related Course(s):	Bachelor of Engineering (EngineeringManagement) Environmental Bachelor of Engineering (Environmental Engineering) Bachelor of Engineering (Environmental) and Bachelor of Commerce Bachelor of Engineering (Environmental) and Bachelor of Laws Bachelor of Engineering (Environmental) and Bachelor of Science