625-308 Digital Geoscience

Credit Points:	12.500
Level:	Undergraduate
Dates & Locations:	2008, This subject commences in the following study period/s: Semester 1, - Taught on campus.
Time Commitment:	Contact Hours: 24 lectures (two per week) and 36 hours of practical work (three hours per week), some of which may be replaced by computer-based assignments conducted by students in their own time Total Time Commitment: 120 hours
Prerequisites:	At least 50 points selected from Earth sciences 625-201, 625-222, 625-203, 625-223, 625-224 or 625-202 is strongly recommended.
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	Credit cannot be gained for this subject and 625-211 (in 2003).
Core Participation Requirements:	It is University policy to take all reasonable steps to minimise the impact of disability upon academic study and reasonable steps will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact upon their active and safe participation in a subject are encouraged to discuss this with the relevant subject coordinator and the Disability Liaison Unit.
Coordinator:	School of Earth Sciences
Subject Overview:	The rapid acceleration in the development and deployment of a wide range of Earth-observing satellite systems, and of digital spatial information technology in general, has fundamentally changed the way in which Earth and environmental scientists observe and monitor the Earth's environment and its resources. In addition recent advances in computer-based three dimensional modelling and visualisation technology have revolutionised the way geoscientists can view, manipulate and interact with complex geospatial datasets. This subject examines the wide range of digital geoscience information available and provides hands-on experience of computer software and methods which enable this type of information to be processed and integrated with field-based observations. Topics will include data acquisition and management, the use of geographic information systems (GIS) and global positioning systems (GPS), digital image manipulation and analysis, three dimensional modelling and visualisation and computer-based simulation of Earth systems. Students will be taught how these techniques are used in research and exploration environments and will apply them to create their own two and three dimensional digital datasets and maps.
Assessment:	Four equally weighted practical exercises to be completed during the scheduled sessions including written reports not exceeding 3000 words in total due during the semester (40% total); a 2-hour written examination in the examination period (60%).
Prescribed Texts:	None
Breadth Options:	This subject is a level 2 or level 3 subject and is not available to new generation degree students as a breadth option in 2008. This subject or an equivalent will be available as breadth in the future. Breadth subjects are currently being developed and these existing subject details can be used as guide to the type of options that might be available. 2009 subjects to be offered as breadth will be finalised before re-enrolment for 2009 starts in early October.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees

Notes:	Students enrolled in the BSc (pre-2008 BSc), BASc or a combined BSc course will receive science credit for the completion of this subject.
Related Course(s):	Bachelor of Arts and Bachelor of Science Bachelor of Arts and Sciences Bachelor of Science