GEOM90006 Spatial Analysis

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	This subject is not offered in 2011.
Time Commitment:	Contact Hours: 24 hours lectures and 24 hours lab assignments Total Time Commitment: 120 hours
Prerequisites:	Prerequisite for this subject is - **Subject** / **Study Period Commencement:** / **Credit Points:** GEOM90008 Foundations of Spatial Information / Not offered 2011 / 12.50
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 Students Experiencing Academic Disadvantage Policy, academic requirements for this subject are articulated in the Subject Description, Subject Objectives, Generic Skills and Assessment Requirements of this entry. The University is dedicated to provide support to those with special requirements. Further details on the disability support scheme can be found at the Disability Liaison Unit website: http://www.services.unimelb.edu.au/disability/
Contact:	**winter@unimelb.edu.au (mailto:winter@unimelb.edu.au)**
Subject Overview:	Spatial analysis focuses on foundations of spatial data and their analysis. We will study methods to characterize spatial patterns and processes of different spatial dimensions and in geographic scale. The subject will cover topics such as spatial autocorrelation, spatial data structures and algorithms, point patterns, measures of dispersion, measures of arrangements, line and network analysis, patterns of areas and in fields, and the role of spatial scale and spatial aggregation problems. These types of analysis are fundamental for all applications of geographic information technology.
Objectives:	On successful completion students will have the ability to: # Describe and discuss data structures and analysis procedures to analyse spatial data # Design and run a spatial analysis appropriate to a given phenomenon # Distinguish and characterize patterns and processes in geographic space # Apply GIS software for spatial analysis
Assessment:	A written exam consisting of a mid-semester test of 30 minutes (10%) and a 2-hour written examination at the end of semester (45%). Four practical assignment reports of about 5 pages length each, due evenly throughout the semester (45%).
Prescribed Texts:	O'Sullivan and Unwin: Geographic Information Analysis. Wiley.
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:	On successful completion students should have: # Ability to apply knowledge of science and engineering fundamentals # Ability to undertake problem identification, formulation, and solution

	# Ability to conduct an engineering project # Ability to communicate effectively, with the engineering team and with the community at large # Ability to manage information and documentation
Related Course(s):	Master of Geographic Information Technology Master of Spatial Information Science Postgraduate Certificate in Engineering
Related Majors/Minors/ Specialisations:	Master of Engineering (Geomatics)