# 451-331 Spatial Analysis

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| **Credit Points:** | 12.500 |
| **Level:** | Undergraduate |
| **Dates & Locations:** | 2008,<br>This subject commences in the following study period/s:<br>Semester 1, - Taught on campus. |
| **Time Commitment:** | Contact Hours: 2 hour lecture, 2 hour practical per week. Total Time Commitment: Not available |
| **Prerequisites:** | 451-105 Introduction to GIS and Remote Sensing and 451-235 Spatial Databases (or equivalent 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: <a href="http://services.unimelb.edu.au/disability">http://services.unimelb.edu.au/disability</a> |
| **Coordinator:** | Dr S Winter |
| **Subject Overview:** | Content includes raster analysis by map algebra; point patterns; measures of dispersion; measures of arrangements; patterns of lines; paths, branching, topology and concepts of distance; patterns of area; patterns in fields; the role of spatial scale and spatial aggregation problems; exploratory spatial data analysis; and spatial autocorrelation. |
| **Assessment:** | A written exam consisting of a mid-semester test of 30 minutes (10%) and a 3-hour written examination at the end of semester (45%). Ten weekly assignments with practical exercise reports of about 4 pages length. The first assignment is optional and not marked. Some of the other assignments may be grouped to fortnightly assignments with report lengths equivalent to two weekly assignments. In any case the nine marked exercises are equally weighted to a total of 45%. |
| **Prescribed Texts:** | None |
| **Recommended Texts:** | Information Not Available |
| **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<br># in-depth technical competence in at least one engineering discipline<br># ability to undertake problem identification, formulation and solution<br># capacity for independent critical thought, rational inquiry and self-directed learning |

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| **Related Course(s):** | Bachelor of Geographic Information Technology<br>Bachelor of Geomatic Engineering<br>Bachelor of Geomatic Engineering and Bachelor of Information Systems<br>Bachelor of Geomatic Engineering and Bachelor of Science<br>Diploma in Geographic Information Systems |