

## GEOM30012 Integrated Spatial Systems

<b>Credit Points:</b>	12.50
<b>Level:</b>	3 (Undergraduate)
<b>Dates &amp; Locations:</b>	2010, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.
<b>Time Commitment:</b>	Contact Hours: 2 h lecture and 2 h practical per week Total Time Commitment: 120 hours
<b>Prerequisites:</b>	The prerequisites for this subject are: Linear Algebra, Calculus 1, Surveying and Mapping, Applications of GIS, Imaging the Environment
<b>Corequisites:</b>	None
<b>Recommended Background Knowledge:</b>	Students will need to acquaint themselves with project management techniques, scientific communication strategies (written and verbal) and various techniques of resource assessment.
<b>Non Allowed Subjects:</b>	None
<b>Core Participation Requirements:</b>	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: <a href="http://www.services.unimelb.edu.au/disability/">http://www.services.unimelb.edu.au/disability/</a>
<b>Coordinator:</b>	Assoc Prof Stephan Winter
<b>Contact:</b>	Melbourne School of Engineering Office Building 173, Grattan Street The University of Melbourne VIC 3010 Australia General telephone enquiries + 61 3 8344 6703 + 61 3 8344 6507 Facsimiles + 61 3 9349 2182 + 61 3 8344 7707 Email <a href="mailto:eng-info@unimelb.edu.au">eng-info@unimelb.edu.au</a> ( <a href="mailto:eng-info@unimelb.edu.au">mailto:eng-info@unimelb.edu.au</a> )
<b>Subject Overview:</b>	Solutions to environmental dilemmas that face us in the 21st century require an integrated, multi-disciplinary approach. This subject, delivered in the final semester of the Bachelor of Environments, provides a basis for students to integrate and apply the knowledge they have gained throughout their studies in different disciplines to solve real world problems.  The subject will be structured around a project in which students will work in teams to develop spatial information supporting a landscape management project (in collaboration with landscape management students).  The project will provide opportunities to apply knowledge of fundamental concepts, theory, and applications in core areas of positioning technologies and measurement integration, GIS, distributed spatial computing and mapping, web mapping, and location-based services. Study sites may be off-campus.
<b>Objectives:</b>	On completion of this subject students should be able to:

	<ul style="list-style-type: none"> <li># Access, collect, organize and present data in ways that support landscape management planning.</li> <li># Critically evaluate the strengths and limitations of traditional and non traditional positioning and location technologies.</li> <li># Integrate appropriate components of spatial technologies to meet the requirements of specific industry problems.</li> <li># Contribute spatial information to enhancing the ecological, economic and social value of the study site.</li> <li># Communicate these enhancements effectively using appropriate spatial formats.</li> </ul>
<b>Assessment:</b>	Group project proposal due in week 5 (5000 words - 30 %), group project report due in week 12 (5000 words – 40 %), individual project evaluation report (blog, continuing, 500 words by week 12 - 10 %), group project seminar presentation at exam time (week 15) (20 %).
<b>Prescribed Texts:</b>	TBA
<b>Breadth Options:</b>	This subject is not available as a breadth subject.
<b>Fees Information:</b>	Subject EFTSL, Level, Discipline & Census Date, <a href="http://enrolment.unimelb.edu.au/fees">http://enrolment.unimelb.edu.au/fees</a>
<b>Generic Skills:</b>	<p>On completion of the subject the students will have the:</p> <ul style="list-style-type: none"> <li># Ability to apply knowledge of science and engineering fundamentals</li> <li># Ability to undertake problem identification, formulation, and solution</li> <li># Ability to communicate effectively, with the engineering team and with the community at large</li> <li># Ability to manage information and documentation</li> <li># Understanding of professional and ethical responsibilities, and commitment to them</li> <li># Capacity for lifelong learning and professional development</li> </ul>
<b>Related Course(s):</b>	Bachelor of Science
<b>Related Majors/Minors/Specialisations:</b>	Geomatics Geomatics Physical (Environmental Engineering) Systems