

GEOM30012 Integrated Spatial Systems

Credit Points:	12.50																											
Level:	3 (Undergraduate)																											
Dates & Locations:	2012, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.																											
Time Commitment:	Contact Hours: 48 hours per semester (Lectures: 2 hours per week, Practicals: 2 hours per week) Total Time Commitment: 120 hours																											
Prerequisites:	<p>Successful completion of the following subject is required to enroll, note GEOM20015 may be completed concurrently:</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>MAST10007 Linear Algebra</td> <td>Summer Term, Semester 1, Semester 2</td> <td>12.50</td> </tr> </tbody> </table> <p>OR:</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>MAST10008 Accelerated Mathematics 1</td> <td>Semester 1</td> <td>12.50</td> </tr> </tbody> </table> <p>AND:</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Study Period Commencement:</th> <th>Credit Points:</th> </tr> </thead> <tbody> <tr> <td>GEOM20015 Surveying and Mapping</td> <td>Semester 2</td> <td>12.50</td> </tr> <tr> <td>GEOM20013 Applications of GIS</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>GEOM30009 Imaging the Environment</td> <td>Semester 1</td> <td>12.50</td> </tr> <tr> <td>COMP20005 Engineering Computation</td> <td>Semester 1, Semester 2</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	MAST10007 Linear Algebra	Summer Term, Semester 1, Semester 2	12.50	Subject	Study Period Commencement:	Credit Points:	MAST10008 Accelerated Mathematics 1	Semester 1	12.50	Subject	Study Period Commencement:	Credit Points:	GEOM20015 Surveying and Mapping	Semester 2	12.50	GEOM20013 Applications of GIS	Semester 1	12.50	GEOM30009 Imaging the Environment	Semester 1	12.50	COMP20005 Engineering Computation	Semester 1, Semester 2	12.50
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Corequisites:	None																											
Recommended Background Knowledge:	Students will need to acquaint themselves with project management techniques, scientific communication strategies (written and verbal) and various techniques of resource assessment																											
Non Allowed Subjects:	None																											
Core Participation Requirements:	<p><p>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.</p> <p>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</p></p>																											
Coordinator:	Dr Kai-Florian Richter																											

Contact:	Dr Kai-Florian Richter krichter@unimelb.edu.au (mailto:krichter@unimelb.edu.au)
Subject Overview:	<p>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</p> <p>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)</p> <p>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</p>
Objectives:	<p>On completion of this subject students should be able to:</p> <ul style="list-style-type: none"> # Access, collect, organize and present data in ways that support landscape management planning # Critically evaluate the strengths and limitations of traditional and non traditional positioning and location technologies # Integrate appropriate components of spatial technologies to meet the requirements of specific industry problems # Contribute spatial information to enhancing the ecological, economic and social value of the study site # Communicate these enhancements effectively using appropriate spatial formats
Assessment:	Group project proposal (5000 words), due in week 5 (30%) Group project report (5000 words), due in week 12 (40%) Individual project evaluation report (blog, continuing, 500 words), due in week 12 (10%) Group project seminar presentation, examination period (20%)
Prescribed Texts:	TBA
Breadth Options:	<p>This subject potentially can be taken as a breadth subject component for the following courses:</p> <ul style="list-style-type: none"> # Bachelor of Arts (https://handbook.unimelb.edu.au/view/2012/B-ARTS) # Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2012/B-COM) # Bachelor of Environments (https://handbook.unimelb.edu.au/view/2012/B-ENVS) # Bachelor of Music (https://handbook.unimelb.edu.au/view/2012/B-MUS) <p>You should visit learn more about breadth subjects (http://breadth.unimelb.edu.au/breadth/info/index.html) and read the breadth requirements for your degree, and should discuss your choice with your student adviser, before deciding on your subjects.</p>
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	<p>On completion of the subject the students will have the:</p> <ul style="list-style-type: none"> # Ability to apply knowledge of science and engineering fundamentals # Ability to undertake problem identification, formulation, and solution # Ability to communicate effectively, with the engineering team and with the community at large # Ability to manage information and documentation # Understanding of professional and ethical responsibilities, and commitment to them # Capacity for lifelong learning and professional development
Related Majors/Minors/Specialisations:	<p>Environments Discipline subjects Geomatics Geomatics (Geomatic Engineering) major Master of Engineering (Geomatics) Physical (Environmental Engineering) Systems major</p>

Science-credited subjects - new generation B-SCI and B-ENG. Core selective subjects for B-BMED.