

GEOM90039 Advanced Surveying and Mapping

Credit Points:	12.50											
Level:	9 (Graduate/Postgraduate)											
Dates & Locations:	2012, Parkville This subject commences in the following study period/s: Winter Term, Parkville - Taught on campus.											
Time Commitment:	Contact Hours: An intensive 14 day course with 20 hours of lectures and 60 hours practical, problem based learning exercises Total Time Commitment: 90 hours											
Prerequisites:	Successful completion of the following subjects is required to enrol: <table><tr><th>Subject</th><th>Study Period Commencement:</th><th>Credit Points:</th></tr><tr><td>GEOM20015 Surveying and Mapping</td><td>Semester 2</td><td>12.50</td></tr><tr><td>GEOM90040 Adjustment Theory and Practice</td><td>Semester 2</td><td>12.50</td></tr></table>			Subject	Study Period Commencement:	Credit Points:	GEOM20015 Surveying and Mapping	Semester 2	12.50	GEOM90040 Adjustment Theory and Practice	Semester 2	12.50
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GEOM20015 Surveying and Mapping	Semester 2	12.50										
GEOM90040 Adjustment Theory and Practice	Semester 2	12.50										
Corequisites:	None											
Recommended Background Knowledge:	None											
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:	Assoc Prof Allison Kealy											
Contact:	Dr. Allison Kealy a.kealy@unimelb.edu.au (mailto:a.kealy@unimelb.edu.au)											
Subject Overview:	This subject provides the concepts, theory and applications of high precision positioning techniques used in spatial data acquisition. The focus will be on five core areas: 1. Introduction to survey standards and specifications 2. Introduction to survey network design and adjustment 3. Operational and quality control aspects of electronic distance measurement (EDM), angle measurements and precise levelling 4. Introduction to satellite positioning, observation techniques and data processing 5. Introduction to geodetic datums, coordinate systems, map projections, transformations and conversions											
Objectives:	Upon completion of this subject students will have the ability to: <ul style="list-style-type: none">• Use standards and specifications to describe survey measurements and results• Design survey networks consistent with the precision and accuracy requirements of a specified task• Acquire and compute data using satellite positioning systems• Describe and assess error sources and techniques for their minimisation in EDMs, total stations and precise levels• Describe relationships between coordinate systems, datums and map projections											

Assessment:	3-hr written examination, end of intensive period (50%)A presentation and report (2000 words) summarising the results of the practical work completed (50%)
Prescribed Texts:	None
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:	<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• Ability to function effectively as an individual and in multidisciplinary and multicultural teams, as a team leader or manager as well as an effective team member
Related Majors/Minors/ Specialisations:	Master of Engineering (Geomatics)