GEOM90039 Advanced Surveying and Mapping

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	This subject is not offered in 2011.
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:	Prerequisite for this subject is - **Subject** / **Study Period Commencement:** / **Credit Points:** GEOM20015 Surveying and Mapping / Not offered 2011 / 12.50
Corequisites:	N/A
Recommended Background Knowledge:	N/A
Non Allowed Subjects:	N/A
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:	**akealy@unimelb.edu.au (mailto:akealy@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: • 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:	Written examination at the end of the semester of not more than 3 hours (50%). A presentation and report summarising the results of the practical work completed, of a total workload equivalent to a 2,000 word essay, comprising (50%).
Prescribed Texts:	N/A
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 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)