451-337 Satellite Positioning and Geodesy

Credit Points:	12.500
Level:	Undergraduate
Dates & Locations:	2008, This subject commences in the following study period/s: Semester 2, - Taught on campus.
Time Commitment:	Contact Hours: Twenty-four hours of lectures and 36 hours of tutorials and practical classes. Total Time Commitment: Not available
Prerequisites:	451-200 Surveying 2 (prior to 2006 Geomatics Science 2), 451-208 Computational Methods in Geomatics and 451-206 Least Squares and Network Analysis
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: http://services.unimelb.edu.au/disability
Coordinator:	Dr P Collier
Subject Overview:	Upon completion of this subject students should have a basic understanding of the theory and applications of modern satellite geodesy. Space-based positioning systems (such as GPS) are used in conjunction with sophisticated mathematical modelling to solve the problems of determining 3-D position on and near the surface of the earth. The course will provide an overview of the theory and applications of satellite positioning, particularly in a geodetic context. Content of the subject includes geodetic datum definition and coordinate systems, the principles and theory of satellite positioning, error modelling, practical applications and considerations, data processing strategies, heights from GPS and geoid modelling and the future of satellite geodesy.
Assessment:	One 3-hour written examination at the end of semester (50%) Five fortnightly written assignments, each worth 6-10%. One 1-hour class test in week 8 (10%). Students must achieve a grade of at least 50% in the examination in order to pass the subject.
Prescribed Texts:	None
Recommended Texts:	Information Not Available
Breadth Options:	This subject is a level 2 or level 3 subject and is not available to new generation degree students as a breadth option in 2008. This subject or an equivalent will be available as breadth in the future. Breadth subjects are currently being developed and these existing subject details can be used as guide to the type of options that might be available. 2009 subjects to be offered as breadth will be finalised before re-enrolment for 2009 starts in early October.
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 # in-depth technical competence in at least one engineering discipline # ability to undertake problem identification, formulation and solution # ability to function effectively as an individual and in multi-disciplinary and multi-cultural teams, with the capacity to be a leader or manager as well as an effective team member # expectation of the need to undertake lifelong learning, capacity to do so # capacity for independent critical thought, rational inquiry and self-directed learning # intellectual curiosity and creativity, including understanding of the philosophical and methodological bases of research activity # openness to new ideas and unconventional critiques of received wisdom
Related Course(s):	Bachelor of Geomatic Engineering Bachelor of Geomatic Engineering & Bach of Planning & Design(Prop&Const) Bachelor of Geomatic Engineering and Bachelor of Arts Bachelor of Geomatic Engineering and Bachelor of Information Systems Bachelor of Geomatic Engineering and Bachelor of Science Graduate Diploma in Geomatics Science