GEOM40004 Photogrammetry

Credit Points:	12.50
Level:	4 (Undergraduate)
Dates & Locations:	2010, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.
Time Commitment:	Contact Hours: Twenty-four hours of lectures and 24 hours of tutorials and practical exercises. Total Time Commitment: 120 hours
Prerequisites:	451-332 Imaging in the Geosciences and 451-206 Least Squares Estimation 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 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/
Coordinator:	Prof Clive Fraser
Contact:	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 **eng-info@unimelb.edu.au (mailto:eng-info@unimelb.edu.au)**
Subject Overview:	Topics cover the mathematical foundations of multi-image photogrammetry; bundle adjustment and sensor self-calibration; feature extraction and image matching; digital photogrammetric workstations; orthorectification, automated restitution and DTM extraction in aerial photogrammetry; GPS aerial triangulation; mathematical models, imaging characteristics and mapping products from high-resolution satellite imagery; close-range digital photogrammetry; and industrial and engineering applications of vision metrology.
Objectives:	Upon completion of this subject students should have: # A thorough understanding of the principles of modern photogrammetry, both topographic and non-topographic.
Assessment:	One 2-hour written examination at the end of semester (50%), One 1-hour mid-term test (20%). Six 4 page bi-weekly assignments (30%).
Prescribed Texts:	None

Recommended Texts:	Information Not Available
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:	On completion of the subject students should: # Ability to apply knowledge of basic science and engineering fundamentals # Ability to communicate effectively, not only with engineers but also with the community at large # In-depth technical competence in at least ne engineering discipline # Ability to undertake problem identification, formulation and solution # Ability to utilise a systems approach to design and operational performance # 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 # Understanding of the principles of sustainable design and development # Understanding of professional and ethical responsibilities and committment to them # Expectation of the need to undertake lifelong learning, capacity to do so # Cpacity 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
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