

451-206 Least Squares & Network Analysis

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 24 hours of tutorials. Total Time Commitment: Not available
Prerequisites:	451-208 Computational Methods in Geomatics
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:	Dr P Collier
Subject Overview:	<p>Upon completion of this subject, students should have a basic understanding of the theory of least squares estimation and should be able to confidently apply this knowledge to the solution of simple adjustment and estimation problems in the spatial sciences. Furthermore, this subject will provide an introduction to the design, adjustment and analysis of survey networks by application of least squares techniques.</p> <p>Content of subject includes:</p> <ul style="list-style-type: none"> # review of error theory # propagation of variances # testing for measurement outliers # review of matrix operations # understanding variance matrices # observation equations # linearisation of non-linear functions # the least squares algorithm # testing least squares adjustments # interpreting results # network adjustment in theory and practice

Assessment:	One 3-hour written examination at the end of semester (50%). Eight weekly written assignments, each worth 4.8%. 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 this subject.
Prescribed Texts:	None
Recommended Texts:	Information Not Available
Breadth Options:	<p>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.</p> <p>This subject or an equivalent will be available as breadth in the future.</p> <p>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.</p> <p>2009 subjects to be offered as breadth will be finalised before re-enrolment for 2009 starts in early October.</p>
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	Information Not Available
Related Course(s):	<p>Bachelor of Geomatic Engineering</p> <p>Bachelor of Geomatic Engineering & Bach of Planning & Design(Prop&Const)</p> <p>Bachelor of Geomatic Engineering and Bachelor of Arts</p> <p>Bachelor of Geomatic Engineering and Bachelor of Information Systems</p> <p>Bachelor of Geomatic Engineering and Bachelor of Science</p> <p>Graduate Diploma in Geomatics Science</p>