625-304 Applied Geophysics

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: 12 lectures (one per week) and 36 hours of practical work (three hours per week) Total Time Commitment: 120 hours
Prerequisites:	Earth sciences 625-102. 50 points of geology subjects selected from 625-201, 625-202, 625-211, 625-222, 625-224, 625-203 or 625-223 are strongly recommended.
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	It is University policy to take all reasonable steps to minimise the impact of disability upon academic study and reasonable steps will be made to enhance a student's participation in the University's programs. Students who feel their disability may impact upon their active and safe participation in a subject are encouraged to discuss this with the relevant subject coordinator and the Disability Liaison Unit.
Coordinator:	Associate Professor J Hergt
Subject Overview:	The teaching of this subject follows these principles: # The users of geophysical data (geologists, engineers, lawyers, accountants) need to know how geophysics should be done and what can be expected of the results. Geophysicists, in turn, need to know what the users will expect of them. # The basis for a common understanding between geophysicists and the users of geophysical data lies in the formalisation of the exploration process, based on the scientific method, rather than a detailed understanding of the underlying mathematics. # Modern computing technologies make it possible to use realistic modelling and simulation of the exploration process to teach by doing. The subject is broken into modules, each dealing with one exploration method (gravity, magnetics, resistivity and seismic) while avoiding all but the most elementary mathematics. Students learn the relevant physics at an intuitive level with the aid of a series of forward-modelling exercises presented in the context of responding to client-specific problems in the form of 'requests for bid'. Students learn by designing, conducting and interpreting geophysical surveys that yield the greatest benefit-to-cost ratio. While completing these tasks, students learn how geophysicists think, what they do, and how much to trust their conclusions.
Assessment:	Practical work/problem sheets totalling not more than 3500 words due during the semester (50%); a 2-hour written examination in the examination period (50%).
Prescribed Texts:	None
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
Notes:	Students enrolled in the BSc (pre-2008 BSc), BASc or a combined BSc course will receive science credit for the completion of this subject.
Related Course(s):	Bachelor of Arts and Bachelor of Science Bachelor of Arts and Sciences Bachelor of Science