

GEOL30005 Applied Geophysics

Credit Points:	12.50																		
Level:	3 (Undergraduate)																		
Dates & Locations:	This subject is not offered in 2013. Lectures and practical classes.																		
Time Commitment:	Contact Hours: 2 x one hour lectures per week; and three hours of practical work per week Total Time Commitment: Estimated total time commitment of 120 hours																		
Prerequisites:	<p>One of</p> <ul style="list-style-type: none"> # 625-104 The Earth, Atmosphere and Oceans (prior to 2010) <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;">Subject</th> <th style="width: 20%;">Study Period Commencement:</th> <th style="width: 20%;">Credit Points:</th> </tr> </thead> <tbody> <tr> <td>ERTH10002 Understanding Planet Earth</td> <td>Not offered 2013</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	ERTH10002 Understanding Planet Earth	Not offered 2013	12.50												
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Corequisites:	None																		
Recommended Background Knowledge:	<p>Subjects selected from</p> <ul style="list-style-type: none"> # 625-223 Earth Surface Processes (prior to 2010) # 625-223 Field Geology (prior to 2009) # 625-222 Minerals and Magmas (prior to 2009) # 625-202 Earth Structure and Dynamics (prior to 2010) # 625-202 Sedimentary Basins to Mountain Belts (prior to 2009) <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;">Subject</th> <th style="width: 20%;">Study Period Commencement:</th> <th style="width: 20%;">Credit Points:</th> </tr> </thead> <tbody> <tr> <td>GEOL20001 Geology of Southeast Australia</td> <td>Not offered 2013</td> <td>12.50</td> </tr> <tr> <td>GEOL20002 Structural and Metamorphic Geology</td> <td>Not offered 2013</td> <td>12.50</td> </tr> <tr> <td>ERTH20001 Dangerous Earth</td> <td>Not offered 2013</td> <td>12.50</td> </tr> <tr> <td>GEOL20003 Earth Composition, Minerals and Magmas</td> <td>Not offered 2013</td> <td>12.50</td> </tr> <tr> <td>GEOL20004 Field Mapping and Sedimentary Geology</td> <td>Not offered 2013</td> <td>12.50</td> </tr> </tbody> </table>	Subject	Study Period Commencement:	Credit Points:	GEOL20001 Geology of Southeast Australia	Not offered 2013	12.50	GEOL20002 Structural and Metamorphic Geology	Not offered 2013	12.50	ERTH20001 Dangerous Earth	Not offered 2013	12.50	GEOL20003 Earth Composition, Minerals and Magmas	Not offered 2013	12.50	GEOL20004 Field Mapping and Sedimentary Geology	Not offered 2013	12.50
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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/																		
Contact:	Email: head@earthsci.unimelb.edu.au (mailto:head@earthsci.unimelb.edu.au)																		
Subject Overview:	<p>The teaching of this subject follows these principles:</p> <ul style="list-style-type: none"> # 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. 																		

	<p># 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.</p> <p># Modern computing technologies make it possible to use realistic modelling and simulation of the exploration process to teach by doing.</p> <p>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.</p>
Objectives:	<p>The objective of this subject is to provide students with insights into how geophysicists think, what they do, and how much to trust their conclusions.</p>
Assessment:	<p>Practical exercises totalling 2000 words, comprising: Geophysical interpretation/modelling exercises and accompanying report due two weeks following the relevant practical class (30%), assessment of selected practical exercises due two weeks following the relevant practical class (15%), practical assessment in the form of a short test during the semester (5%), a 2-hour written examination in the examination period (50%)</p>
Prescribed Texts:	<p>None</p>
Breadth Options:	<p>This subject potentially can be taken as a breadth subject component for the following courses:</p> <ul style="list-style-type: none"> # Bachelor of Arts (https://handbook.unimelb.edu.au/view/2013/B-ARTS) # Bachelor of Commerce (https://handbook.unimelb.edu.au/view/2013/B-COM) # Bachelor of Environments (https://handbook.unimelb.edu.au/view/2013/B-ENVS) # Bachelor of Music (https://handbook.unimelb.edu.au/view/2013/B-MUS) <p>You should visit learn more about breadth subjects (http://breadth.unimelb.edu.au/breadth/info/index.html) and read the breadth requirements for your degree, and should discuss your choice with your student adviser, before deciding on your subjects.</p>
Fees Information:	<p>Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees</p>
Notes:	<p>This subject is available for science credit to students enrolled in the BSc (both pre-2008 and new degrees), BASc or a combined BSc course.</p> <p>Previously known as 625-304 Geophysics (prior to 2010)</p> <p>Previously known as 625-304 Applied Geophysics (prior to 2009)</p>
Related Majors/Minors/Specialisations:	<p>Geology Geology Geology Science credit subjects* for pre-2008 BSc, BASc and combined degree science courses Science-credited subjects - new generation B-SCI and B-ENG. Core selective subjects for B-BMED.</p>