625-202 Sedimentary Basins to Mountain Belts

Credit Points:	12.500
Level:	Undergraduate
Dates & Locations:	2008, This subject commences in the following study period/s: Semester 1, - Taught on campus.
Time Commitment:	Contact Hours: 24 lectures (two per week), 24 hours of practical work (two hours per week), and four days of fieldwork (held on weekends during the semester) Total Time Commitment: 120 hours
Prerequisites:	Earth sciences 625-102.
Corequisites:	Earth sciences 625-222.
Recommended Background Knowledge:	None
Non Allowed Subjects:	Credit cannot be gained for both this subject and 625-224 (prior to 2004).
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:	Professor C J L Wilson
Subject Overview:	This subject will evaluate the processes that operate to create sedimentary rocks that fill sedimentary basins, and that operate on these rocks during the formation of mountain belts, deforming them and metamorphosing them. Topics to be covered include: # tectonic settings in which sedimentary basins and mountain belts develop; # sedimentary processes of transportation, deposition and diagenesis; formation of sedimentary structures and sequences; # response of rocks to stress: descriptive treatment of strain, folds and cleavage; # mechanical aspects of rock deformation, stress and strain behaviour of rocks; # examination of deformed rocks in the laboratory and in the field; # response of rocks to elevated temperature and pressure; relationship between mineral assemblages in metamorphic rocks and their conditions of formation; # metamorphic rocks in thin section and in hand specimen; and # the evolution of pressure, temperature and deformation during orogeny. At the end of this subject, students will have acquired an understanding of tectonic settings, the effects of elevated pressure, temperature and stress on rocks; be able to recognise, describe and interpret rocks formed as a consequence of these effects in the laboratory and in the field; and understand their applications in establishing and testing tectonic models.
Assessment:	A 2-hour practical examination during the semester (20%); a 1500-word field report due at the end of semester (20%); a 2-hour written examination in the examination period (60%).
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. Special Requirements: Geological hammer, hand lens and magnet. Students should consult the Earth Sciences web site for dates, charges for excursions, accommodation and food and other information including safety requirements.