400-684 Mineral Economics

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2009, This subject commences in the following study period/s: Semester 1, - Taught on campus. On campus only.
Time Commitment:	Contact Hours: 36 Total Time Commitment: Estimated total time commitment (including non-contact time): 144 Hours2 lectures per week at 1 hour each.1 Practical at 1 hour per week.
Prerequisites:	None
Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	Students undertaking this subject will be expected to be competent in the use of Microsoft Excel or alternative spreadsheet software.
Coordinator:	Prof Moshe Zukerman
Contact:	Dr Priyan Mendis **http://eng-unimelb.custhelp.com (http://eng-unimelb.custhelp.com/)**
Subject Overview:	The primary objectives of the subject are to familiarise students with the way in which economically important minerals are formed and identified, and the broad economic environment in which the mining industry operates, and to provide a framework to assist in the financial evaluation and optimisation of a mineral project. This subject covers the time value of money, discounted cash flows, financial statements, project evaluation, capital and operating cost estimation, cut-off grade theory, Monte Carlo simulation, valuation and capital investment decision making. It will benefit students wishing to continue academic studies as well as resource sector professionals seeking to broaden their skills to move into senior management roles.
Objectives:	On completion of this subject, the students should have developed the skills and knowledge to understand the theoretical fundamentals of mineral economics and to apply them to practical mining applications. Specifically, they should have a solid understanding of current project evaluation and optimisation techniques. Furthermore they should be able to undertake discounted cash flow analysis and assess alternative investment options.
Assessment:	Formally supervised written examination - 3 hours 50% (end of semester). This final exam is a hurdle. A student must pass the exam to pass the subject. Written class test - 1 hour 20% (mid semester);A project (2000 word limit) 30% (end of semester).
Prescribed Texts:	R Brealey & S. Myers, Principals of Corporate Finance, McGraw Hill, 2000.
Recommended Texts:	# V. Rudenno, The Mining Valuation Handbook, Wrightbooks, Victoria 1999. # K. F. Lane, The Economic Definition of Ore, Mining Journal Books Limited, London 1997. # Cost Estimation Handbook for the Australian Mining Industry, Monograph 20 AusIMM, 1993.
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 this subject, the students should have developed: # analytical, critical and creative thinking, with an aptitude for continued self-directed learning.

	# sense of intellectual curiosity. # ability to interpret data and research results. # sense of intellectual integrity and ethics of scholarship. # writing, problem-solving and communication skills. # ability to learn in a range of ways, including through information and communication technologies. # capacity to confront unfamiliar problems. # ability to evaluate and synthesise the research and professional literature. # ability to develop models of practical applications and evaluate their performance by rigorous analytical means and by programming computer simulations. # capacity to manage competing demands on time, including self-directed project work.
Notes:	Students will need access to a calculator or preferably a PC/laptop with spreadsheet software to conduct evaluation analysis.
Related Course(s):	Master of Mining Engineering