

400-688 Underground Mining and Planning Methods

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2009, This subject commences in the following study period/s: Semester 2, - Taught on campus. On campus only.
Time Commitment:	Contact Hours: 36 Total Time Commitment: 144 hours (including non-contact time).2 X 1 hour lectures weekly.1 X 1 hour practical weekly.
Prerequisites:	400-684 (ENGR00010) Mineral Economics.
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><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> </p>
Coordinator:	Prof Moshe Zukerman
Contact:	Dr Priyan Mendis http://eng-unimelb.custhelp.com (http://eng-unimelb.custhelp.com/)
Subject Overview:	<p>The primary objectives of the subject are to familiarise students with the way in which ore bodies are mined using underground entry methods. This will include:</p> <ul style="list-style-type: none"> • Introduction to Underground Mining: Mining philosophy, Worldwide practices and Openpit versus Underground. • Introduction to Mine Planning: Resource Development (Exploration => Reserves), Mine Planning Requirements, Scoping, Pre-Feasibility and Feasibility Studies and Scheduling. • Mining Method Selection: Selective Mining Methods, Open Stopping Mining Methods, Caving Mining Methods and Other Mining Methods. • Underground Equipment Selection: Utilisation and Availability, Performance, Cost and Lead Times and Selection Criteria. • Materials Handling: Ore and Waste Handling, LHDs and Track Bound Loaders, Trucking, Rail Haulage/Systems, Shafts, Conveyors, Materials Handling Optimisation and Materials Handling Simulation. <p>The subject will benefit students intending to move into general mine management, as well as those who will in the actual technical design and mining.</p>
Objectives:	On completion of this subject, the students should have developed the skills and knowledge to understand the fundamentals of underground mine planning, mining method selection and optimisation, and the ability to accept responsibility for the technical and financial safety of underground mining operations.
Assessment:	<ul style="list-style-type: none"> • Formally supervised written examination - 3 hours 30% (end of semester 2). • Project assignment (3,000 words limit) 30% (commencing from the start of semester). • 3 Homework

	assignments (1,500 words limit each) each of equal value, totalling 40%, commencing in Weeks 3, 6, and 9.
Prescribed Texts:	H. Hartman & J. Mutmanský – Introductory Mining Engineering Wiley, 2002. C. Bise – Mining Engineering Analysis, SME 2003.
Recommended Texts:	SME – Mining Engineering Handbook, 1992. L.J Thomas, An Introduction to Mining, Hicks Smith, 1973.
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:	<p>On completion of this subject, the students should have developed:</p> <ul style="list-style-type: none"> • 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. • capacity to manage competing demands on time, including self-directed project work.
Notes:	Students will need access to PC/laptop and will be expected to regularly access an internet-enabled computer.
Related Course(s):	Master of Mining Engineering