ENGR90014 Underground Mining and Planning Methods

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	2011, Parkville This subject commences in the following study period/s: Semester 2, Parkville - Taught on campus.
Time Commitment:	Contact Hours: 36 hours (Lectures: 2 hours per week, Tutorial: 1 hour per week) Total Time Commitment: 144 hours
Prerequisites:	The following subject is required

Subject	Study Period Commencement:	Credit Points:
ENGR90010 Mineral Economics	Semester 1	12.50

Corequisites:	None
Recommended Background Knowledge:	None
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/
Coordinator:	Prof Ian Johnston
Contact:	Prof Ian Johnston **ianwj@unimelb.edu.au (mailto:ianwj@unimelb.edu.au)**
Subject Overview:	The primary objectives of the subject are to familiarise students with the way in which ore bodies are mined using underground excavation, access and rock handling techniques. Topics of study will include: # 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 stoping 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 # Blasting theory # Development and stope planning # Development and production scheduling The subject will benefit students intending to move into general mine management, as well as those who involved in the actual technical design and mining
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:	One 2 hour examination, end of semester (50%)Assignments during semester (50%)Hurdle Requirement: Students must pass the examination component to pass the subject
Prescribed Texts:	Introductory Mining Engineeering (H. Hartman & J. Mutmansky), Wiley, 2002Mining Engineering Analysis (C. Bise), SME 2003
Recommended Texts:	# Mining Engineering Handbook (SME) 1992 # An Introduction to Mining (L.J Thomas), 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:	# 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 Postgraduate Certificate in Engineering