ENGR90017 Risk and Safety Management

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, Tutorials: 1 hour per week) Total Time Commitment: 144 hours
Prerequisites:	None
Corequisites:	None
Recommended Background Knowledge:	Students undertaking this subject will be expected to be competent in the use of Microsoft Excel or alternative spreadsheet software
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
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Subject Overview:	This course examines the fundamentals of risk and safety management, risk management concepts such as losses, hazards & risks, controls/barriers, risk analysis & assessment techniques. It also examines risk management systems, auditing & incident investigation tools and case studies Course topics will include: # safety management in mining # hazard identification, hazard and risk analyses, management techniques, safety audits and reporting # qualitative and quantitative risk analysis techniques # hierarchy of controls in safety management # safety assessment of major mining hazards and major incidents # human factors engineering (how behaviour, motivation, attitude and personality influence safety management) # safety engineering (e.g. ergonomics, fitness for work, etc.) # safety management systems, policies and procedures # safety training for mine personnel # incident/accident and injury investigation methods and report/recovery # cost benefit analysis for decision making process # occupational health and safety legislation (including mining specific legislation) on a state, national and international basis # safety statistics # case studies A formal safety management program is closely related to risk management within mining operations and will be reviewed together with identification of management strategies to deal

	with potential loss and reduce the likelihood of incidents and accidents and their severities. It will look at how hazard control management integrates into large scale management planning. This course will draw on experience, techniques and standards applied in other industries and case studies
Objectives:	On completion of this subject, the students should have developed the skills and knowledge for risk identification, risk analysis, risk elimination or reduction and to apply them to practical mining and other environments to minimise the likelihood of incidents and accidents. Specifically, they should have a solid understanding of all the risk management functions including: # risk identification # risk analysis # risk reduction or elimination # risk financing # safety process administration and management
Assessment:	One 2 hour examination, end of semester (50%)A significant Safety Assessment group assignment (30%)A 2000 word project, due end of semester (20%)Hurdle requirement: Students must pass the examination component to pass the subject
Prescribed Texts:	National Minerals Industry Safety and Health Risk Assessment GuidelineRisk & Reliability - An Introductory Text 5th edition online You may consider purchasing Version 7 of this book although Version 5 contains all you need Mine Design Guidelines (MDG) - various Specifically MDG1010 and its companion MDG1014 The Application of Major Hazard Risk Assessment (MHRA) to Eliminate Multiple Fatality Occurrences in the U.S. Minerals Industry
Recommended Texts:	# Mining Engineering Handbook (SME), 1992
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 develop models of practical applications and evaluate their performance by rigorous analytical means and by programming computer simulations # Ability to evaluate and synthesise the research and professional literature # Capacity to manage competing demands on time, including self-directed project work # Skills for hazard/ risk identification especially in planning stages (Proactive). This is essential for continuous improvement # Skills to analyse understand and interpret risk. This will help management prioritize areas that should be targets for greatest improvement # Skills to evaluate the risk and determine which potential losses and events will be addressed and in what order of priority # Risk investigation and reporting skills # Risk management and safety audit skills # Working in teams and collaborating with others
Notes:	Students will need access to PC/laptop
Related Course(s):	Master of Engineering Project Management Master of Engineering Project Management Master of Mining Engineering

	Postgraduate Certificate in Engineering