Faculty of Engineering

School of Minerals and Energy Resources Engineering

Postgraduate Course Outline

MINE8120 – 6UOC
Hazard and Risk Identification (Distance mode)
T3, 2021

Dr Chengguo Zhang

CONTENTS

1. INFORMATION ABOUT THE COURSE

Course Code:	MINE8120	Term:	T3, 2021	Level:	PG	Units/Credits	6 UOC
Course Name:	Hazard and Risk Identification						

Course Convenor:	Dr Chengguo Zhang		
Contact Details	School of Minerals and Energy Resources Engineering Old Main Building, Room 159E	EMAIL:	Chengguo.zhang@unsw.edu.au
		Phone:	
Contact times	Contact times are scheduled online over seven weeks.		

1.1. Course Description

The aim of this course is to provide students with an appreciation of the broad range of risks faced by a mining operation, for which a dynamic range of risk management strategies are required from exploration, feasibility, planning and design, operations and closure. These include economic risks, geological risks, environmental risks, external factors and influences, and of course health and safety risks. The module will introduce students to the processes of hazard identification, risk assessment, and a number of risk management strategies available. In the context of mining hazards and safety related risks, the course will also review a number of generic mine safety factors and how these manifest themselves in different mining systems and methods of mining.

1.2. Course Completion

Course completion requires:

- submission of all assessment items

2. AIMS, LEARNING OUTCOMES AND GRADUATE ATTRIBUTES

2.1. Course Aims

This course aims to equip the student with knowledge and skills in risk and safety management in the mining industry.

2.2. Learning Outcomes

It is intended that students who successfully complete this course will be able to:

1. Demonstrate a broad awareness of the wide range of risks that affect and are involved in the mining industry, and how these risks are managed
2. Assess the major risk assessment techniques available and in use in the industry
3. Identify the core risks associated with major mining methods;
4. Recognise the generic mine safety factors and hazards that exist or have potential to exist in mining operations, and demonstrate an awareness of how these are or can be dealt with.

2.3. Graduate Attributes

This course will contribute to the development of the following Graduate Attributes:

1. appropriate technical knowledge
2. having advanced problem solving, analysis and synthesis skills with the ability to tolerate ambiguity
3. ability for engineering design and creativity
4. awareness of opportunities to add value through engineering and the need for continuous improvement
5. being able to work and communicate effectively across discipline boundaries

3. REFERENCE RESOURCES

3.1. Reference Materials

- *MEA Report Writing Guide for Mining Engineers*. P Hagan and P Mort (Mining Education Australia (MEA)). (Latest edition available for download from the School website or a hardcopy version is available from the UNSW Bookshop)
- *Guide to Authors*. (Australasian Institute of Mining and Metallurgy: Melbourne) (Available for download from the AusIMM website)

3.2. Online Resources

There are significant resources available in Moodle including presentations, video clips and relevant articles.

4. COURSE CONTENT AND LEARNING ACTIVITIES

4.1. Learning Activities Summary

UNSW Week	Week Starting	Hrs.	Topic	Content/Activities
1	13 Sep	15	Introduction to Risk Management	Introduction to Risk Management 13e22.72 6n <95 /TT893<95 f 284.82 6n <95 /TT893<95 f 28 49 6r

Total student effort hours: Approx. 100150

(Note: The above indication of “student effort hours” is indicative only

- prepared in the form of a formal report that includes a list of reference sources cited in the report, prepared in accordance with the report writing standards of the School as contained in the MEA Report Writing Guide for Mining Engineers. A copy can be obtained from the UNSW Bookshop or downloaded from the School webpage.

- Each submission must have appended:
  - to the front, a signed copy of the Student Declaration Form and Coversheet; and
  - to the end, a completed self-assessed copy of the Assessment Criteria.

  Copies of both documents are available for download from LTMS.
- It is strongly recommended when preparing the major assignment; students use the Report Template

6. ASSESSMENT CRITERIA

The criteria listed for each item of assessment and the descriptions contained therein are not intended to be prescriptive nor is it an exhaustive list. Rather it should be viewed as a framework to guide the student as to the type of information and depth of coverage that is expected to be evident in a submission for assessment; the framework illustrates for example what would distinguish an excellent achievement from a poor achievement.

The student should be cognisant that a range of factors is often being assessed in any one assignment not just whether the final results are numerically correct. Consideration is given to other relevant elements that contribute to the *Learning Outcomes* of the course as well as the *Graduate Attributes* of the overall degree program.

The student is cautioned against merely using the assessment criteria as a checklist. When assessing an assignment, elements in the framework will be examined in terms of quality and creativity. Hence ensuring all the listed elements are merely covered in an assignment is often not sufficient and will not automatically lead to full marks being awarded. Other factors such as how the student went about presenting information, how an argument was structured and/or the elements supporting a particular recommendation or outcome are also important

7. STUDYING A PG COURSE IN MINING ENGINEERING AT UNSW

7.1 How We Contact You

At times, the School or your lecturers may need to contact you about your course or your enrolment. Your lecturers will use the email function through Moodle or we will contact you on your @student.unsw.edu.au email address.

We understand that you may ha

In some instances your final course result may be withheld and not released on the published date. This is indicated by a course grade result of either:

- WD – which usually indicates you have not completed one or more items of assessment or
-

Course Convenor: _____
Course Code: _____Course Title: _____
Assignment: _____
Due Date: _____
Student Name: _____Student ID:_____

ACADEMIC REQUIREMENTS
Before submitting this assignment, the student is advised to review:

- the assessment requirements contained in the briefing document for the assignment;
- the various matters related to assessment in the relevant Course Outline; and
- the *Plagiarism and Academic Integrity* website at < http:/www.lc.unsw.edu.au/plagiarism/pintro9ot5.8 >(TS)-1