

Faculty of Engineering

School of Minerals and Energy Resources Engineering

Course Outline

MINE8120

Hazard Identification, Risk and Safety Management

Ismet Canbulat

1 INFORMATION ABOUT THE COURSE

| | | | | | | | |
|--------------|----------|-------|----------|--------|----|---------------|-------|
| Course Code: | MINE8120 | Term: | T2, 2021 | Level: | PG | Units/Credits | 6 UOC |
|--------------|----------|-------|----------|--------|----|---------------|-------|

3.2 Other Resources (if applicable)

There are significant resources available in the LTMS including a learning guide; presentations; course reader; video clips etc.

3.3 Online Resources

Selected readings as well as other supporting material (e.g. course outline and lecture notes will be made available on Moodle.

3.4 Report Writing Guide

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)

4 COURSE CONTENT AND LEARNING ACTIVITIES

4.1 Course content

1. Course introduction
2. Hazard identification and safety management
3. Human behaviour
4. Risk assessment tools
5. Control strategies
6. Risk assessment scoping
7. Types of risk 2
8. Organisational incidents
9. Environmental risk management
10. Failed mines
11. Mining methods
12. Regulation and safety
13. Sustainable mining and corporate risks

4.2 Learning Activities Summary

Presentations and reading material are provided to provide students with technical information and examples of how risk management process is applied in the mining industry.

Discussions will be used to encourage students to articulate and defend positions, consider different points of view and evaluate evidence. Case studies will be used to provide practice in identifying potential problems and evaluating alternative course of actions.

| UNSW Days | Day | Hrs. | Topic | Content/Activities | |
|--------------|-----|------|-------|--------------------|--|
|--------------|-----|------|-------|--------------------|--|

5 COURSE ASSESSMENT

5.1 Assessment Summary

The range of assessment tasks have been designed to ensure a student can demonstrate they have satisfactorily attained the minimum requirements of the course as defined in the *Learning Outcomes* of the course and *Graduate Attributes* of the program. The student is also advised to review the relevant *Assessment Criteria* before completing each of the assessment items.

| <i>Item No.</i> | <i>Assessment</i> | <i>Due Date</i> | <i>Weighting</i> | <i>Learning outcomes</i> |
|-----------------|--|-----------------|------------------|--------------------------|
| A01 | Individual report – Scoping a risk assessment* | 2 11:59pm | 20% | 1,2,3,4 |
| A02 | Individual report - Investigation of a major mining incident | 13 June | | |

6 ASSESSMENT CRITERIA

The assessment criteria provides a framework for you to assess your own work before formally submitting major assignments to your course convenor. Your course convenor will be using this framework to assess your work and as a way to assess whether you have met the listed learning outcomes and the graduate attributes for your program. We ask that you don't use the assessment criteria guidelines as a checklist, but as a tool to assess the quality of your work. Your course convenor will also be looking at the quality, creativity and the presentation of your written assignment as they review the framework. Rubrics, wherever applicable, will be provided at the time of the assignment release.

The following assessment criteria provide a framework for students when preparing assignments in the course as well as a guideline for assessors when marking an assignment. The student is advised to review the relevant framework before undertaking their assignment.

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 in itself 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.

Finally the framework can also be used to provide feedback to a student on their performance in an assignment.

6.1 Risk assessment scope

The assessment criteria and relative weighting that will be used in assessing the Risk Assessment Scope is summarised in the following table.

Assessment Criteria *Risk Assessment Scoping*

| <i>Criteria</i> | <i>Excellent</i> | <i>Good</i> | <i>Satisfactory</i> | <i>Unsatisfactory</i> | <i>Poor</i> | <i>nil</i> |
|-------------------------|--|--|---|---|-------------|------------|
| <i>Quality of scope</i> | <ul style="list-style-type: none"> • scope contains all essential elements; and • in the form of a formal report that was written and presented to a professionally high standard; and, • all referencing and references were correct; and • total word count was not less than 750 and did not exceed 1500 words. | <ul style="list-style-type: none"> • scope contains most essential elements; and • in the form of a formal report that was well written and presented; and, • all referencing and references were correct; and • total word count was not less than 750 and did not exceed 1500 words. | <ul style="list-style-type: none"> • scope contains many essential elements; and • in the form of a formal report with only a few very minor errors and exceptions; and • all referencing and references were mostly correct; and • total word count was not less than 500 and did not exceed 1000 words. | <ul style="list-style-type: none"> • | | |

6.2 Assignment Reports

The assessment criteria that will be used in assessing the assignment reports is summarised in the following table.

| Criteria | Excellent | Good | Satisfactory | Unsatisfactory | Poor | - |
|-------------------------------|--|---|--|---|---|---------------------------|
| Introduction | The introduction has clearly defined objectives of the assignment and includes a comprehensive summary of the findings and outcomes of the assignment. | The introduction has defined objectives of the assignment and includes some summary of the findings and outcomes of the assignment. | The introduction has defined objectives and methodology of the assignment with minor errors in summary of the findings and outcomes of the assignment. | The introduction has some defined objectives and methodology of the assignment with errors in summary of the findings and outcomes of the assignment. | The introduction has poorly defined objectives and methodology of the assignment with major errors in summary of the findings and outcomes of the assignment. | Provided no introduction. |
| | 5 | 4 | 3 | 2 | 1 | 0 |
| Assumptions in the assignment | Provided a comprehensive list of all the assumptions for the with sound justification for the selection. | Provided a list of some of the assumptions for the assignment with sound justification for the selection. | Provided an incomplete list of assumptions for the assignment with some justification for the selection. | Provided an incomplete list of assumptions for the assignment with little justification for the selection. | Provided a limited list of assumptions for the assignment with little justification for the selection. | Provided no assumptions |
| | 5 | 4 | 3 | 3 | 1 | 0 |

Provided comprehensive risk assessment analysis for the assignment. Provide full details of the following: 484.12 68.66 11.18

Assessment and analysis of relevant risks

7.4 Accessing Course Materials Through Moodle

LMS). In addition, on-line assignment submissions are made using the assignment dNopbox facility provided in Moodle. All enrolled students are automatically included in Moodle for each course. To access these documents and other course resources, please visit:

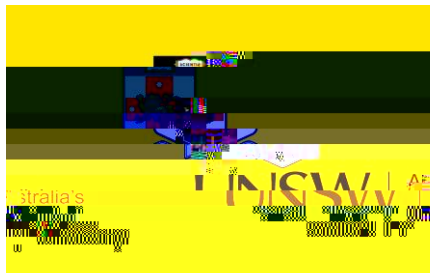
7.9 Students Needing Additional Support

The Student Equity and Disabilities Unit (SEADU) aims to provide all students with support and professional advice when circumstances may prevent students from achieving a successful university education. Take a look at their webpage: www.studentequity.unsw.edu.au/

7.10 Academic Honesty and Plagiarism

Your lecturer and the University will expect your submitted assignments are truly your own work. UNSW has very clear guidelines on what plagiarism is and how to avoid it. Plagiarism is using the words or ideas of others and presenting them as your own. Plagiarism is a type of intellectual theft. It can take many forms, from deliberate cheating to accidentally copying from a source without acknowledgement. The University has adopted an educative approach to plagiarism and has developed a range of resources to support students. All the details on plagiarism, including some useful resources, can be found at www.student.unsw.edu.au/plagiarism.

All Mining Engineering students are required to complete a student declaration for academic integrity



School of Minerals and Energy Resources Engineering Assessment Cover Sheet

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/pintro.html> > to ensure they are familiar with the requirements to provide appropriate acknowledgement of source materials.

If after reviewing this material there is any doubt about assessment requirements, then in the first instance the student should consult with the Course Convenor and then if necessary with the Director – Undergraduate Studies.

While students are generally encouraged to work with other students to enhance learning, all assignments submitted for assessment must be their entire own work and duly acknowledge the use of other person's work or material. The student may be required to explain any or all parts of the assignment to the Course Convenor or other authorised persons. *Plagiarism* is using the work of others in whole or part without appropriate acknowledgement within the assignment in the required form. *Collusion* is where another person(s) assists in the preparation of a student's assignment without the consent or knowledge of the Course Convenor.

Plagiarism and *Collusion* are considered as Academic Misconduct and will be dealt with according to University Policy.

STUDENT DECLARATION OF ACADEMIC INTEGRITY

I declare that:

- This assessment item is entirely my own original work, except where I have acknowledged use of source material [such as books, journal articles, other published material, the Internet, and the work of other student/s or any other person/s].
- This assessment item has not been submitted for assessment for academic credit in this, or any other course, at UNSW or elsewhere.

I understand that:

- The assessor of this assessment item may, for the purpose of assessing this item, reproduce this assessment item and provide a copy to another member of the University.
- The assessor may communicate a copy of this assessment item to a plagiarism checking service (which may then retain a copy of the assessment item on its database for the purpose of future plagiarism checking).

Student Signature: _____

Date: _____

Students are advised to retain a copy of this assessment for their records and submission should be made in accordance to the assessment details available on the course Moodle site.