



**UNSW**

## UNSW Course Outline

# MINE4710 Mine Management - 2024

Published on the 21 May 2024

## General Course Information

**Course Code :** MINE4710

**Year :** 2024

**Term :** Term 2

**Teaching Period :** T2

**Is a multi-term course? :** No

**Faculty :** Faculty of Engineering

**Academic Unit :** School of Minerals & Energy Resources Engineering

**Delivery Mode :** In Person

**Delivery Format :** Standard

**Delivery Location :** Kensington

**Campus :** Sydney

**Study Level :** Undergraduate

**Units of Credit :** 6

### Useful Links

[Handbook Class Timetable](#)

## Course Details & Outcomes

### Course Description

The course provides an understanding of management principles and perspectives vital to a mine manager's successful running of a mining enterprise.

The course consists of four modules:

1. Mining law, safety and risk management;
2. Minerals economics and mine cost structure;
3. Management fundamentals; and
4. Mine operations management

## Course Aims

This course aims to equip the student with an appreciation of management principles and practices vital to the successful running of a mining operation in the Australian and international setting. Critical aspects of mine management will be covered in this course including risk and safety, legislative frameworks, economic development, sustainable and responsible resource recovery.

# Course Learning Outcomes

Course Learning Outcomes
CLO1 : Examine current mine safety management, HSEC/duty of care, risk management and people management (e.g., Cross-cultural and diversity issues) concepts, and compare the good from the bad practices.
CLO2 : Evaluate and analyse Australian and international legislative framework systems, statutory requirements, and approval processes and evaluate how they influence mine site management.
CLO3 : Outline and evaluate project and contract management theory and practices.
CLO4 : Analyse and summarise advanced management aspects of mineral economics, project financing, including mergers and acquisitions, and formulate strategies to incorporate them into selected mining operations.

Course Learning Outcomes	Assessment Item
CLO1 : Examine current mine safety management, HSEC/duty of care, risk management and people management (e.g., Cross-cultural and diversity issues) concepts, and compare the good from the bad practices.	<ul style="list-style-type: none"><li>• Disaster Case Study</li><li>• Quiz</li><li>• Final Exam</li></ul>
CLO2 : Evaluate and analyse Australian and international legislative framework systems, statutory requirements, and approval processes and evaluate how they influence mine site management.	<ul style="list-style-type: none"><li>• Industrial Relations Script and Role Play</li><li>• Disaster Case Study</li><li>• Quiz</li><li>• Final Exam</li></ul>
CLO3 : Outline and evaluate project and contract management theory and practices.	<ul style="list-style-type: none"><li>• Industrial Relations Script and Role Play</li><li>• Quiz</li><li>• Final Exam</li></ul>
CLO4 : Analyse and summarise advanced management aspects of mineral economics, project financing, including mergers and acquisitions, and formulate strategies to incorporate them into selected mining operations.	<ul style="list-style-type: none"><li>• Industrial Relations Script and Role Play</li><li>• Quiz</li><li>• Final Exam</li></ul>

## Learning and Teaching Technologies

Moodle - Learning Management System | Microsoft Teams

## Additional Course Information

Assumed Knowledge

This course assumes that students: have a good understanding of mining terms, descriptions and systems; have been exposed to various mining methods; and are familiar with mining development, operations, production and materials handling.

# Assessments

## Assessment Structure

Assessment Item	Weight	Relevant Dates
Disaster Case Study Assessment Format: Individual	20%	Start Date: 03/06/2024 12:00 AM Due Date: 23/06/2024 11:59 PM
Quiz Assessment Format: Individual	20%	Start Date: 27/06/2024 04:00 PM Due Date: 27/06/2024 06:00 PM
Industrial Relations Script and Role Play Assessment Format: Group	30%	Start Date: 28/06/2024 12:00 AM Due Date: 02/08/2024 11:59 PM
Final Exam Assessment Format: Individual	30%	

## Assessment Details

### Disaster Case Study

#### Assessment Overview

The purpose of this exercise is to select a recent high-profile accident (mining or otherwise), to conduct a detailed accident investigation using the Bow-Tie analysis or Swiss-cheese model as an analysis tool, and to present your results.

This assessment has a written report (70%) and presentation (30%) components.

#### Course Learning Outcomes

- CLO1 : Examine current mine safety management, HSEC/duty of care, risk management and people management (e.g., Cross-cultural and diversity issues) concepts, and compare the good from the bad practices.
- CLO2 : Evaluate and analyse Australian and international legislative framework systems, statutory requirements, and approval processes and evaluate how they influence mine site management.

#### Submission notes

23 June is the due date for the report, the presentation will be on 8 Jul.

## Quiz

### Assessment Overview

There are four questions, all questions are of equal 25-point values. Unless otherwise specified, questions shall be answered in ESSAY format. Any reference materials used shall be cited in the essay text and listed at the end of the essay for each question as per the MEA report writing guide.

This is an open book assessment – MINE4710 Moodle resources and any additional reference materials may be used, however, no other online resources can be used.

### Course Learning Outcomes

- CLO1 : Examine current mine safety management, HSEC/duty of care, risk management and people management (e.g., Cross-cultural and diversity issues) concepts, and compare the good from the bad practices.
- CLO2 : Evaluate and analyse Australian and international legislative framework systems, statutory requirements, and approval processes and evaluate how they influence mine site management.
- CLO3 : Outline and evaluate project and contract management theory and practices.
- CLO4 : Analyse and summarise advanced management aspects of mineral economics, project financing, including mergers and acquisitions, and formulate strategies to incorporate them into selected mining operations.

## Industrial Relations Script and Role Play

### Assessment Overview

Each group (3-5 students) selects one industrial dispute from a list provided in class and develops a roleplay script based detailing what caused the dispute, who are the main players, how the dispute escalated, and how it was resolved.

This assessment has a written report (script) and presentation (dramatisation) component. The presentation (dramatisation) of each group is assessed by the convenor and all non-member students.

For the written report (script), a peer review will be submitted by each team member, indicating the proportion of each individual group member's contribution to the project. Team member marks will be moderated based on individual contributions.

### Course Learning Outcomes

- CLO2 : Evaluate and analyse Australian and international legislative framework systems, statutory requirements, and approval processes and evaluate how they influence mine site management.

management.

- CLO3 : Outline and evaluate project and contract management theory and practices.
- CLO4 : Analyse and summarise advanced management aspects of mineral economics, project financing, including mergers and acquisitions, and formulate strategies to incorporate them into selected mining operations.

## Final Exam

### Assessment Overview

There are 4-5 questions, all questions are of equal values.

All questions must be answered in ESSAY format. Any reference materials used must be cited in the essay text and listed at the end of the essay for each question as per the MEA report writing guide.

This is an open book exam – MINE4710 Moodle resources and any additional reference materials may be used, however, no other online resources can be used.

### Course Learning Outcomes

- CLO1 : Examine current mine safety management, HSEC/duty of care, risk management and people management (e.g., Cross-cultural and diversity issues) concepts, and compare the good from the bad practices.
- CLO2 : Evaluate and analyse Australian and international legislative framework systems, statutory requirements, and approval processes and evaluate how they influence mine site management.
- CLO3 : Outline and evaluate project and contract management theory and practices.
- CLO4 : Analyse and summarise advanced management aspects of mineral economics, project financing, including mergers and acquisitions, and formulate strategies to incorporate them into selected mining operations.

## General Assessment Information

### Grading Basis

Standard

## Course Schedule

## Attendance Requirements

Students are required to attend all F2F lectures in person unless there is a good reason.

# Course Resources

## Prescribed Resources

- AusIMM 2012 Mine Managers' Handbook, Monograph 26.
- AusIMM 2009 Australasian Coal Mining Practice, Monograph 12,3rd ed., Chapters 40-42.
- Maxwell, P. and Guj, P. (eds) 2006 Australian Mineral Economics: A Survey of Important Issues, AusIMM
- 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)
- The Complete Idiot's Guide to Project Management. G Campbell and S Baker (Alpha: New York) or its equivalent.
- Style Manual for Authors, Editors and Printers, 2002. 6th edition (John Wiley & Sons)
- The Research Project – How to Write It, 2000. R Berry, 4th edition (Routledge: London) • How to Write a Better Thesis, 2002. D Evans and P Gruba (Melbourne University Press: Melbourne)

## Recommended Resources

- Learning Guide: Mining Research Project
- Student Resource Book: Mining Research Project
- EndNote, software package available to UNSW students
- ELISE, the on-line study skills tutorial and ELISE Plus. Both tutorials will be useful to students when preparing the Annotated Bibliography and Project Progress Report assignment submissions. The latter in particular includes a tutorial on EndNote and RefWorks. The tutorials can be accessed at < <http://info.library.unsw.edu.au/skills/tutorials.html> >.
- The Learning Centre. Several resources are available at the UNSW Learning Centre website to assist students in preparing the various assessment tasks including:
- Guide for Writing Thesis Proposals, available at <https://student.unsw.edu.au/thesis-proposals>
- Honours Thesis Writing for Engineering and Science Students, available at <https://student.unsw.edu.au/honours-thesis-writing-engineering-and-science-students>

## Course Evaluation and Development

At the end of each course, all students will have the opportunity to complete a course evaluation form. These anonymous surveys help us understand your views of the course, your lecturers and the course materials. We are continuously improving our courses based on student feedback, and your perspective is valuable.

Feedback is given via <https://student.unsw.edu.au/myexperience> and you will be notified when this is available for you to complete.

We also encourage all students to share any feedback they have any time during the course – if you have a concern, please contact us immediately.

# Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Convenor	Binghao Li		School of Minerals and Energy Resources Engineering, Old Main Building, 163	(0) 2 9385 4236	By appointment, email	No	Yes

# Other Useful Information

## Academic Information

### I. Special consideration and supplementary assessment

If you have experienced an illness or misadventure beyond your control that will interfere with your assessment performance, you are eligible to apply for Special Consideration prior to, or within 3 working days of, submitting an assessment or sitting an exam.

Please note that UNSW has a Fit to Sit rule, which means that if you sit an exam, you are declaring yourself fit enough to do so and cannot later apply for Special Consideration.

For details of applying for Special Consideration and conditions for the award of supplementary assessment, please see the information on UNSW's [Special Consideration page](#).

### II. Administrative matters and links

All students are expected to read and be familiar with UNSW guidelines and polices. In particular, students should be familiar with the following:

- [Attendance](#)
- [UNSW Email Address](#)
- [Special Consideration](#)
- [Exams](#)
- [Approved Calculators](#)
- [Academic Honesty and Plagiarism](#)
- [Equitable Learning Services](#)

### III. Equity and diversity

Those students who have a disability that requires some adjustment in their teaching or learning environment are encouraged to discuss their study needs with the course convener prior to, or at the commencement of, their course, or with the Equity Officer (Disability) in the Equitable Learning Services. Issues to be discussed may include access to materials, signers or note-takers, the provision of services and additional exam and assessment arrangements. Early notification is essential to enable any necessary adjustments to be made.

#### **IV. Professional Outcomes and Program Design**

Students are able to review the relevant professional outcomes and program designs for their streams by going to the following link: <https://www.unsw.edu.au/engineering/student-life/student-resources/program-design>.

*Note: This course outline sets out the description of classes at the date the Course Outline is published. The nature of classes may change during the Term after the Course Outline is published. Moodle or your primary learning management system (LMS) should be consulted for the up-to-date class descriptions. If there is any inconsistency in the description of activities between the University timetable and the Course Outline/Moodle/LMS, the description in the Course Outline/Moodle/LMS applies.*

#### **Academic Honesty and Plagiarism**

UNSW has an ongoing commitment to fostering a culture of learning informed by academic integrity. All UNSW students have a responsibility to adhere to this principle of academic integrity. Plagiarism undermines academic integrity and is not tolerated at UNSW. *Plagiarism at UNSW is defined as using the words or ideas of others and passing them off 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. UNSW has produced a website with a wealth of resources to support students to understand and avoid plagiarism, visit: <student.unsw.edu.au/plagiarism>. The Learning Centre assists students with understanding academic integrity and how not to plagiarise. They also hold workshops and can help students one-on-one.

You are also reminded that careful time management is an important part of study and one of the identified causes of plagiarism is poor time management. Students should allow sufficient time for research, drafting and the proper referencing of sources in preparing all assessment tasks.

Repeated plagiarism (even in first year), plagiarism after first year, or serious instances, may also be investigated under the Student Misconduct Procedures. The penalties under the procedures can include a reduction in marks, failing a course or for the most serious matters (like plagiarism in an honours thesis or contract cheating) even suspension from the university. The Student Misconduct Procedures are available here:

[www.gs.unsw.edu.au/policy/documents/studentmisconductprocedures.pdf](http://www.gs.unsw.edu.au/policy/documents/studentmisconductprocedures.pdf)

## Submission of Assessment Tasks

Work submitted late without an approved extension by the course coordinator or delegated authority is subject to a late penalty of five percent (5%) of the maximum mark possible for that assessment item, per calendar day.

The late penalty is applied per calendar day (including weekends and public holidays) that the assessment is overdue. There is no pro-rata of the late penalty for submissions made part way through a day. This is for all assessments where a penalty applies.

Work submitted after five days (120 hours) will not be accepted and a mark of zero will be awarded for that assessment item.

For some assessment items, a late penalty may not be appropriate. These will be clearly indicated in the course outline, and such assessments will receive a mark of zero if not completed by the specified date. Examples include:

- Weekly online tests or laboratory work worth a small proportion of the subject mark;
- Exams, peer feedback and team evaluation surveys;
- Online quizzes where answers are released to students on completion;
- Professional assessment tasks, where the intention is to create an authentic assessment that has an absolute submission date; and,
- Pass/Fail assessment tasks.

## Faculty-specific Information

[Engineering Student Support Services](#) – The Nucleus - enrolment, progression checks, clash requests, course issues or program-related queries

[Engineering Industrial Training](#) – Industrial training questions

[UNSW Study Abroad](#) – study abroad student enquiries (for inbound students)

UNSW Exchange – student exchange enquiries (for inbound students)

UNSW Future Students – potential student enquiries e.g. admissions, fees, programs, credit transfer

## Phone

(+61 2) 9385 8500 – Nucleus Student Hub

(+61 2) 9385 7661 – Engineering Industrial Training

(+61 2) 9385 3179 – UNSW Study Abroad and UNSW Exchange (for inbound students)

## School-specific Information

### Course completion

Course completion requires submission of all assessment items. Failure to submit all assessment items may result in the award of an Unsatisfactory Failure (UF) grade for the Course unless special consideration has been submitted and approved.

### Submission of Assessment Tasks

We encourage you to retain a copy of every assignment submitted for your own record, either in hardcopy or electronic form. All assessments must have an assessment cover sheet attached (if required).

### Student Resources

The School has student resources section, containing useful advice and information to ensure you're able to focus on your studies.

### Computing Resources and Internet Access Requirements

UNSW Minerals and Energy Resources Engineering provides blended learning using the online Moodle LMS (Learning Management System). Also see - Transitioning to Online Learning: [www.covid19studyonline.unsw.edu.au](http://www.covid19studyonline.unsw.edu.au)

Note that some specialist engineering software is not available for Mac computers.

- Mining Engineering Students: OMB G48
- Petroleum Engineering Students: TETB LG34 & LG35

For more information about system requirements is available at [www.student.unsw.edu.au/moodle-system-requirements](http://www.student.unsw.edu.au/moodle-system-requirements)

### Accessing Course Materials Through Moodle

Course outlines, support materials are uploaded to Moodle, the university standard Learning Management System (LMS). In addition, on-line assignment submissions are made using the assignment dropbox 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: [www.moodle.telt.unsw.edu.au](http://www.moodle.telt.unsw.edu.au)

### School Contact Information

School of Minerals and Energy Resources Engineering  
Old Main Building, Level 1, 159 (K15)  
UNSW SYDNEY NSW 2052 AUSTRALIA

For current students, all enquiries and assistance relating to enrolment, class registration, progression checks and other administrative matters, please see [The Nucleus: Student Hub.](#)

### Web & Important Links:

[School of Minerals and Energy Resources](#)

[The Nucleus Student Hub](#)

[Moodle](#)

[UNSW Handbook](#)

[UNSW Timetable](#)

[Student Wellbeing](#)

[Urgent Mental Health & Support](#)

[Equitable Learning Services](#)