

MINE8445

Mining Industry Research Project 2

Term 3, 2022



Course Overview

Staff Contact Details

Convenors

Name	Email	Availability	Location	Phone
Seher Ata	s.ata@unsw.edu.au			+61478492 034

School Contact Information

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

[Engineering Student Services](#)

E: mere.teaching@unsw.edu.au

W: www.engineering.unsw.edu.au/minerals-energy-resources

Course Details

Units of Credit 6

Summary of the Course

This course is for postgraduate Masters coursework students to further extend their research capabilities with a mining industry collaborator, extending successful completion of the MINE8440 core research project. intended to develop the capability and requisite skills of an engineer to build a foundation of knowledge related to a particular problem in mining engineering. This research foundation provides a basis on which to design a solution that is robust and safe, cost effective and appropriate to the end-user.

It is essential that this foundation reflects not only established thinking and practices but equally important, it should account for divergent and newly developing views as well as any limitations or weaknesses that underpin current understanding. The quality of the engineering solution is therefore a function of the quality and timing to complete this investigation; an investigation that forms part of a process known as research.

The research scope of this course is to significantly extend any previous industry research that has been undertaken by the student and/or others including two or more of the following categories: site or laboratory testing; related numerical modelling; comprehensive cost-benefit or geostatistical analysis; extension of constitutive theory.

On completion of this course, a student should be capable of preparing:

- a conference paper
- an examiners copy of thesis, and final corrected thesis submission

With permission from the School, and consistent with Program rules, this course can be extended in combination with MINE8690 to produce a significantly more comprehensive research and thesis.

Note: Industry support is essential for this research project. Students need to have written evidence of industry support and/or agreement of an academic supervisor in the School in order to complete the course requirements. Please contact the School if more information is required.

Course Aims

The course aims to develop the capability and requisite skills of an engineer to build a foundation of knowledge related to a particular industry-related problem. This foundation provides a basis on which to design a solution that is robust and safe, cost effective and research outcomes that are appropriate to the end-user.

Course Learning Outcomes

After successfully completing this course, you should be able to:

Learning Outcome	EA Stage 1 Competencies
1. Design and assemble appropriate resources necessary to	PE1.4

Learning Outcome	EA Stage 1 Competencies
support the research investigation.	
2. Manage a research project to successful completion - achieve objectives within required timeframe with available resources.	PE2.4
3. Collate and analyse results of investigation.	PE1.3
4. Formulate relevant conclusions and recommendations against the project objectives.	PE1.6
5. Present the research results in the form of a thesis dissertation and presentation.	PE3.2
6. Prepare a document to the standards required for a conference hosted by Australian Institute of Mining and Metallurgy (AusIMM), or similar relevant professional body.	PE3.4

Teaching Strategies

Strategies and rationale in this course will ensure that learning outcomes develop UNSW graduate attributes.

Assessment

Assessment task	Weight	Due Date	Course Learning Outcomes Assessed
1. Consultation with supervisor	5%	Not Applicable	1, 2, 4
2. Presentation on research project and outcomes	15%	Not Applicable	5
3. Final submission requirements	15%	Not Applicable	1, 4, 6
4. Examiners copy of thesis	65%	Not Applicable	2, 4, 6

Assessment 1: Consultation with supervisor

The quality of the student consultations with supervisor.

Assessment criteria

The assessment criteria and weighting that will be used in assessing will be provided in Moodle.

Assessment 2: Presentation on research project and outcomes

Assessment length: 20 mins

May be submitted in video or a webinar format.

Assessment criteria

Assesment criteria will be provided in the course Moodle.

Assessment 3: Final submission requirements

Submission requires a corrected research thesis, conference paper, and CD with all data and relevant files.

Assessment criteria

Assesment criteria will be provided in the course Moodle.

Additional details

Once the minor thesis is examined by reviewers, students should revise their thesis accordingly and include the points raised by the reviewers. The template below should be used to record the revisions made to the thesis. *The template along with two copies of the revised theses* (one showing the changes made and the other clean) should be submitted online to the designated dropbox.

Examiner comments <i>(please reproduce exactly as in the examiner report)</i>	Response <i>(include text/figures added to the revised thesis; use a different colour to identify the new text in the thesis)</i>	Section / Page (in original thesis)	Section / Page (in revised thesis)	Reviewer's Comment (if applicable)

Assessment 4: Examiners copy of thesis

Assessment length: max 15000 words

The Examiner's copy of the thesis should be approximately 15,000 words, excluding appendices, tables and illustrative matter. The thesis should be an ordered; critical and reasoned exposition of knowledge gained through the student's efforts and includes evidence of awareness of the literature.

You need to introduce the thesis, identify what is already known about the topic in the literature, let the reader know the methodology used, state the results and discuss them, and identify the conclusions. A reference list should appear at the end of your report. The report must strictly adhere to AusIMM's Guide to Authors. Information that is not essential to explain findings but supports analysis, validates conclusions, or pursues a related point should be placed in an appendix.

Assessment criteria

To be provided in the course Moodle.

Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

Resources

Prescribed Resources

- *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

- UNSW Mining and Petroleum subject guide (including a link to ACARP and how to find the reports in the catalogue).
<http://subjectguides.library.unsw.edu.au/content.php?pid=7632&sid=52212>
- UNSW Library services for Postgraduate students.
<http://library.unsw.edu.au/servicesfor/PGandH.html>
- New postgraduate course students are strongly advised to visit the above website and complete the ELISE and ELISE Plus tutorials. These will help develop skills in finding, using and evaluating scholarly information.
- The University and the Faculty provide a wide range of support services for students, including:
- UNSW Learning Centre (<http://www.lc.unsw.edu.au>)
- Counselling support - <http://www.counselling.unsw.edu.au>
- Library training and support services - <http://www.library.unsw.edu.au/>
- OnePetro – (<http://www.onepetro.org>)

Laboratory Workshop Information

N/A

Submission of Assessment Tasks

The School has developed a guideline to help you when submitting a course assignment.

We encourage you to retain a copy of every assignment submitted for assessment for your own record either in hardcopy or electronic form.

All assessments must have an assessment cover sheet attached.

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.

Late Submission of an Assignment

Full marks for an assessment are only possible when an assessment is received by the due date. 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. 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 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, or
- Online quizzes where answers are released to students on completion, or Professional assessment tasks, where the intention is to create an authentic assessment that has an absolute submission date, or Pass/Fail assessment tasks.

We understand that at times you may not be able to submit an assignment on time, and the School will accommodate any fair and reasonable extension. We would recommend you review the UNSW Special Consideration guidelines – see section below.

Special Consideration

You can apply for special consideration through [The Nucleus Student Hub](#) when illness or other circumstances interfere with your assessment performance. Sickness, misadventure or other circumstances beyond your control may:

- Prevent you from completing a course requirement
- Keep you from attending an assessable activity
- Stop you submitting assessable work for a course
- Significantly affect your performance in assessable work, be it a formal end-of-semester

examination, a class test, a laboratory test, a seminar presentation or any other form of assessment

We ask that you please contact the Course Convenor immediately once you have completed the special consideration application, no later than one week from submission.

More details on special consideration can be found at: www.student.unsw.edu.au/special-consideration

Student Support

The University and the Faculty provide a wide range of support services for students, including:

- Library training and support services - www.library.unsw.edu.au
- UNSW Learning Centre - www.lc.unsw.edu.au
- Counselling support - www.counselling.unsw.edu.au

Equitable Learning Services aims to provide all students with a free and confidential service that provides practical support to ensure that your health condition doesn't adversely affect your studies. <https://student.unsw.edu.au/els>

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 MERE students are required to complete a student declaration for academic integrity which is outlined in the assignment cover sheets. By signing this declaration, you agree that your work is your own original work.

If you need some additional support with your writing skills, please contact the Learning Centre or view some of the resources on their website: www.lc.unsw.edu.au. The Learning Centre is designed to help you improve your academic writing and communication skills. Some students use the Centre services because they are finding their assignments a challenge, others because they want to improve an already successful academic performance.

Academic Information

Course Results

For details on UNSW assessment policy, please visit: www.student.unsw.edu.au/assessment

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

- LE – indicates you have not completed one or more items of assessment; or
- WD – indicates there is an issue with one or more assignment; or
- WC – which indicates you have applied for Special Consideration due to illness or misadventure and the course results have not been finalised.

In either event it would be your responsibility to contact the Course Convener as soon as practicable but no later than five (5) days after release of the course result. If you don't contact the convener on time, you may be required to re-submit an assignment or re-sit the final exam and may result in you failing the course. You would also have a NC (course not completed) mark on your transcript and would need to re-enroll in the course.

Studying a course in the School of Minerals and Energy Resources Engineering at UNSW

Report writing guide

The School has a [Report Writing Guide \(RWG\)](#) available. A copy of this is available on the course Moodle site.

Computing Resources and Internet Access Requirements

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

It is essential that you have access to a PC or notebook computer. Mobile devices such as smart phones and tablets may compliment learning, but access to a PC or notebook computer is also required. Note that some specialist engineering software is not available for Mac computers.

- Mining Engineering Students: OMB G48
- Petroleum Engineering Students: TETB LG34 & LG 35

It is recommended that you have regular internet access to participate in forum discussion and group work. To run Moodle most effectively, you should have:

- broadband connection (256 kbit/sec or faster)
- ability to view streaming video (high or low definition UNSW TV options)

More information about system requirements is available at 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

This course outline sets out 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 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 (as updated in Moodle), the description in the Course Outline/Moodle applies.

How We Contact You

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

We understand that you may have an existing email account and would prefer for your UNSW emails to be redirected to your preferred account. Please see instructions on how to redirect your UNSW emails: ["How can I forward my emails to another account?"](#)

How You Can Contact Us

We are always ready to assist you with your inquiries. To ensure your question is directed to the correct person, please use the email address below for:

- Enrolment or other admin questions regarding your program: <https://unswinsight.microsoftcrmpartals.com/web-forms/>
- Course inquiries should be directed to the Course Convenor

Image Credit

Synergies in Sound 2016

CRICOS

CRICOS Provider Code: 00098G

Acknowledgement of Country

We acknowledge the Bedegal people who are the traditional custodians of the lands on which UNSW Kensington campus is located.

Appendix: Engineers Australia (EA) Professional Engineer Competency Standard

Program Intended Learning Outcomes	
Knowledge and skill base	
PE1.1 Comprehensive, theory based understanding of the underpinning natural and physical sciences and the engineering fundamentals applicable to the engineering discipline	
PE1.2 Conceptual understanding of the mathematics, numerical analysis, statistics, and computer and information sciences which underpin the engineering discipline	
PE1.3 In-depth understanding of specialist bodies of knowledge within the engineering discipline	✓
PE1.4 Discernment of knowledge development and research directions within the engineering discipline	✓
PE1.5 Knowledge of engineering design practice and contextual factors impacting the engineering discipline	
PE1.6 Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline	✓
Engineering application ability	
PE2.1 Application of established engineering methods to complex engineering problem solving	
PE2.2 Fluent application of engineering techniques, tools and resources	
PE2.3 Application of systematic engineering synthesis and design processes	
PE2.4 Application of systematic approaches to the conduct and management of engineering projects	✓
Professional and personal attributes	
PE3.1 Ethical conduct and professional accountability	
PE3.2 Effective oral and written communication in professional and lay domains	✓
PE3.3 Creative, innovative and pro-active demeanour	
PE3.4 Professional use and management of information	✓
PE3.5 Orderly management of self, and professional conduct	
PE3.6 Effective team membership and team leadership	