ENAR12004 *Mine Management and Safety*
Term 1 - 2023

Profile information current as at 29/04/2024 05:22 pm

All details in this unit profile for ENAR12004 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

General Information

Overview

This unit introduces students to mine operations and mine management systems and the application of mine management principles. It outlines the practice of mining related industrial relations and mine safety. Students are expected to develop an understanding of mine health and safety management systems and the teamwork and communication skills necessary to implement such systems in the mining industries.

Details

Career Level: *Undergraduate*
Unit Level: *Level 2*
Credit Points: *6*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites

There are no requisites for this unit.
Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the Assessment Policy and Procedure (Higher Education Coursework).

Offerings For Term 1 - 2023

- Online

Attendance Requirements

All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Website

This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit Undergraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

Regional Campuses

Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

Metropolitan Campuses

Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **Written Assessment**
Weighting: 25%
2. **Written Assessment**
Weighting: 35%
3. **Written Assessment**
Weighting: 40%
4. **Portfolio**
Weighting: Pass/Fail

Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the University's Grades and Results Policy for more details of interim results and final grades.

CQUniversity Policies

All University policies are available on the CQUniversity Policy site.
You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the CQUniversity Policy site.

Previous Student Feedback

Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

Feedback from Lecturer reflection

Feedback
To mark and return assignments within a fortnight.

Recommendation
Review assessment structure and marking rubric to reduce marking load whilst maintaining detailed feedback.

Feedback from Student feedback

Feedback
To provide additional mine management and legislative resources

Recommendation
Existing resources will be upgraded by sourcing new material (videos), specialist guest lecturers and provision of an extra weekly lecture.

Unit Learning Outcomes

On successful completion of this unit, you will be able to:

1. Discuss mine management systems
2. Apply the principles of mine management to given mine related situations and issues
3. Explain the purpose, structure, design and operation of mining organisations
4. Discuss the practice of industrial relations in mine management and mine operations
5. Discuss and explain the relevant Mine Safety and Inspections Acts and Regulations
6. Assess mine organisational risk management
7. Demonstrate an effective, professional level of teamwork and communication and support collaborative peer group learning.

The Learning Outcomes for this unit are linked with the Engineers Australia Stage 1 Competency Standards for Professional Engineers in the areas of 1. Knowledge and Skill Base, 2. Engineering Application Ability and 3. Professional and Personal Attributes at the following levels:

Introductory 1.3 In-depth understanding of specialist bodies of knowledge within the engineering discipline. (LO: 1N 6N) 1.4 Discernment of knowledge development and research directions within the engineering discipline. (LO: 2N 3N 4N 5N) 1.5 Knowledge of engineering design practice and contextual factors impacting the engineering discipline. (LO: 3N 5N) 2.1 Application of established engineering methods to complex engineering problem solving. (LO: 6N) 3.6 Effective team membership and team leadership. (LO: 4N 7N)

Intermediate 1.6 Understanding of the scope, principles, norms, accountabilities and bounds of sustainable engineering practice in the specific discipline. (LO: 1N 2I 3N 4N 5N 6N) 2.2 Fluent application of engineering techniques, tools and resources. (LO: 1I 6I) 2.4 Application of systematic approaches to the conduct and management of engineering projects. (LO: 1I 2I 3I 4I 6I 7N) 3.3 Creative, innovative and pro-active demeanour. (LO: 4I 5I 7N)

Advanced 3.1 Ethical conduct and professional accountability. (LO: 2I 4A 5N 6N 7N) 3.2 Effective oral and written communication in professional and lay domains. (LO: 1A 2N 3A 4N 5N 7A) 3.4 Professional use and management of information. (LO: 1I 2I 3I 4N 5A 6N 7N) 3.5 Orderly management of self, and professional conduct. (LO: 6A 7N)

Note: LO refers to the Learning Outcome number(s) which link to the competency and the levels: N – Introductory, I – Intermediate and A - Advanced.

Refer to the Engineering Undergraduate Course Moodle site for further information on the Engineers Australia's Stage 1 Competency Standard for Professional Engineers and course level mapping information **https://moodle.cqu.edu.au/course/view.php?id=1511**

Alignment of Learning Outcomes, Assessment and Graduate Attributes

| — N/A Level | ∘ Introductory Level | ● Intermediate Level | ● Graduate Level | ∘ Professional Level | ∘ Advanced Level |

Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes						
	1	**2**	**3**	**4**	**5**	**6**	**7**
1 - Written Assessment - 25%	●	●	●	●			
2 - Written Assessment - 35%	●	●	●	●		●	

Assessment Tasks	Learning Outcomes						
	1	2	3	4	5	6	7
3 - Written Assessment - 40%	•	•	•	•	•	•	
4 - Portfolio - 0%							•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes						
	1	2	3	4	5	6	7
1 - Communication	•	•	•	•	•	•	•
2 - Problem Solving	•	•	•	•	•	•	
3 - Critical Thinking	•	•	•	•	•	•	
4 - Information Literacy	•	•	•	•	•	•	
5 - Team Work							•
6 - Information Technology Competence	•	•	•	•	•	•	•
7 - Cross Cultural Competence	•	•	•	•	•	•	
8 - Ethical practice	•	•	•	•	•	•	
9 - Social Innovation							
10 - Aboriginal and Torres Strait Islander Cultures							

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
1 - Written Assessment - 25%	•	•	•	•		•		•		
2 - Written Assessment - 35%	•	•	•	•	•	•		•		
3 - Written Assessment - 40%	•	•	•	•		•	•	•		
4 - Portfolio - 0%	•		•	•	•	•	•	•		

Textbooks and Resources

Textbooks

ENAR12004

Supplementary

Mine Managers' Handbook
Edition: First (2012)
Authors: John Dunlop, Chris J Carr, Paul Harper, Odwyn Jones, Brian White
AusIMM
Burswood , Victoria , Australia
ISBN: 978 1 921522 76 5
Binding: Hardcover

Additional Textbook Information
Further readings will be provided during lectures and tutorials. Purchase paper copies at the CQUni Bookshop here: http://bookshop.cqu.edu.au (search on the Unit code)

View textbooks at the CQUniversity Bookshop

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Zoom (both microphone and webcam capability)

Referencing Style

All submissions for this unit must use the referencing style: Harvard (author-date)
For further information, see the Assessment Tasks.

Teaching Contacts

Andrew Hammond Unit Coordinator
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Muhammad Qureshi Unit Coordinator
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Schedule

Week 1 - Mine Manager Position Description - 06 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Overview of Mine Management	Chapter 1 - Overview of Mine Management	Zoom Tutorial

Week 2 - Mine Management Systems - 13 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic

Mine Management Systems	Chapter 7 Operations Management Operations, Mine Production, Mineral Processing Technical Services Safety Management Human Resources Stakeholder Management. This includes indigenous issues, cultural sensitivity and community engagement. Environmental Management	Zoom Tutorial

Week 3 - Organisational Structure - 20 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Organisational Structure	Chapter 5 - Human Resources	Zoom Tutorial

Week 4 - Safety Management - 27 Mar 2023

Module/Topic	Chapter	Events and Submissions/Topic
Safety Management	Chapter 2 - Occupational Health and Safety	Zoom Tutorial **Proposed Organisational Structure and Management Systems** Due: Week 4 Friday (31 Mar 2023) 11:59 pm AEST

Week 5 - Principle Hazard Management Plan - 03 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic
Principle Hazard Management Plan	Chapter 2 Occupational Health and Safety Mining Legislation	Zoom Tutorial

Vacation Week - 10 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - Mine Safety Management Plan Queensland - 17 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic
Mine Safety Management Plan	Chapter 2 Occupational Health and Safety Legislation	Zoom Tutorial

Week 7 - Mine Safety Management Plan, New South Wales - 24 Apr 2023

Module/Topic	Chapter	Events and Submissions/Topic
Mine Safety Management Plan	Chapter 2 Occupational Health and Safety Legislation	Zoom Tutorial

Week 8 - Mine Reporting - 01 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
Mine Reporting	Chapter 7 - Operations Management	Zoom Tutorial **Safety and Environmental Management Plans and Legislation** Due: Week 8 Friday (5 May 2023) 11:59 pm AEST

Week 9 - Mine Management Reporting Systems - 08 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
Mine Management Reporting Systems	Chapter 7 - Operations Management	Zoom Tutorial

Week 10 - Leadership - 15 May 2023

Module/Topic	Chapter	Events and Submissions/Topic

Leadership	Chapter 5 Human Resources Leadership Managing Expectations Communication Modelling Expected Behaviour	Zoom Tutorial

Week 11 - Industrial Relations - 22 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
Enterprise Bargaining	Chapter 5 Human Resources Legislation	Zoom Tutorial

Week 12 - Unit Overview - 29 May 2023

Module/Topic	Chapter	Events and Submissions/Topic
Unit overview and summation		Zoom Tutorial **Mine Reporting, Leadership and Enterprise Agreements** Due: Week 12 Friday (2 June 2023) 11:59 pm AEST

Review/Exam Week - 05 Jun 2023

Module/Topic	Chapter	Events and Submissions/Topic
		Learning Portfolio Due: Review/Exam Week Friday (9 June 2023) 11:59 pm AEST

Exam Week - 12 Jun 2023

Module/Topic	Chapter	Events and Submissions/Topic

Assessment Tasks

1 Proposed Organisational Structure and Management Systems

Assessment Type
Written Assessment

Task Description
A Project Management Team is establishing a new green-field mining venture. The mine is a Pty Ltd stand-alone company called "Horizon Mining". Accordingly, the team is not restricted in its approach by any organizational structures or management systems already in place at other mining operations.
Other members of the Project Management Team are working on such things as mine designs, feasibility studies, exploration and land access and community engagement.
Prepare a preliminary report to inform the Project Management Team of their options for developing a mine organizational structure. Should project management accept all or part of the preliminary report, they plan to commission a much more detailed report on the aspects raised in the preliminary report. Consequently, the preliminary report should provide a detailed rationale to support its recommendations.
Further details regarding this assignment are available on the Moodle site and will be discussed during weekly Zoom Tutorial sessions.

Assessment Due Date
Week 4 Friday (31 Mar 2023) 11:59 pm AEST
Submit electronically via Moodle with your name, unit code and assignment number i.e. NAME_ENAR12004_Assignment_1

Return Date to Students

Assignments will be marked and returned within two weeks of submission.

Weighting
25%

Minimum mark or grade
50%

Assessment Criteria

- Use clear, coherent sentences.
- The organizational structure will require a clear diagram that is referred to within the text (probably more than once).
- Include supporting detail of the purpose of the organizational structure.
- Include the rationale for choosing a particular type of organizational structure.
- Describe your reasons for recommending a particular organizational structure and how it supports the functions and principles of management.
- Describe some processes for dealing with anomalies or identified problems. The processes should resolve problems and communicate outcomes to mine personnel.
- Sources of information should be correctly cited within the text and a list of references must be included at the end of the answer (under a separate heading).
- Mining terminologies must be used correctly.
- A detailed marking criteria sheet will also be available on the ENAR12004 Moodle page.

Referencing Style

- [Harvard (author-date)](#)

Submission
Online

Submission Instructions
Turnitin will be used to check submissions. Avoid academic integrity issues, check referencing. Use the link in Moodle to submit assignments.

Learning Outcomes Assessed

- Discuss mine management systems
- Apply the principles of mine management to given mine related situations and issues
- Explain the purpose, structure, design and operation of mining organisations
- Discuss the practice of industrial relations in mine management and mine operations

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Ethical practice

2 Safety and Environmental Management Plans and Legislation

Assessment Type
Written Assessment

Task Description
The project management team has accepted the initial report. Management has concerns that the mine may not meet the legislative requirements for operating in Australia. Develop a proposal that will ensure mine management are aware of their legal responsibilities concerning the development of safety and environmental management plans.
The report should identify any other safety-related legislation the mine managers needs to be aware of and the responsibilities they may have under this legislation.
The Moodle site and weekly Zoom Tutorials will discuss further details pertaining to the type and location of the mine and therefore, the relevant legislative framework.

Assessment Due Date
Week 8 Friday (5 May 2023) 11:59 pm AEST
Submit electronically via Moodle with your name, unit code and assignment number i.e. NAME_ENAR12004_Assignment _2

Return Date to Students

Assignments will be marked and returned within two weeks of submission.

Weighting
35%

Minimum mark or grade
50%

Assessment Criteria

- Use clear coherent sentences.
- Use correct mining terminology.
- The safety management plan should at least meet the requirements of the relevant legislation.
- The environmental section of the report should describe suitable processes for monitoring and reporting incidents that impact on the environment.
- The report should refer to and meet all the requirements of the relevant legislation.
- Other safety related legislation the mine manager may need to be aware of includes explosives and radiation safety.
- All sources of information should be correctly cited within the text and a list of references must be included at the end of the report (under a separate heading).

Referencing Style

- [Harvard (author-date)](#)

Submission
Online

Submission Instructions
Turnitin will be used to check submissions. Avoid academic integrity issues, check referencing. Use the link in Moodle to submit assignments.

Learning Outcomes Assessed

- Discuss mine management systems
- Apply the principles of mine management to given mine related situations and issues
- Explain the purpose, structure, design and operation of mining organisations
- Discuss the practice of industrial relations in mine management and mine operations
- Assess mine organisational risk management

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Team Work
- Information Technology Competence
- Ethical practice

3 Mine Reporting, Leadership and Enterprise Agreements

Assessment Type
Written Assessment

Task Description
The project management team has accepted the report. Senior project management believes that in order to ensure a safe and productive workplace, mine management will require detailed guidance for setting up a suitable mine reporting system. Management will also require clear expectations of what leadership in the workplace will look like on a day to day basis. Finally, they will need guidance on setting up a suitable Enterprise Agreement for the mining operation.
As this is a preliminary report, there is no need to assess costs or develop a schedule. The purpose of this report is to provide the necessary information to allow mine management to make an informed decision about the pros and cons of selecting a suitable mine reporting system, implementing a leadership development plan, and implementing an enterprise bargaining agreement.
Further details will be provided in the Moodle site and will be discussed during weekly Tutorial sessions.

Assessment Due Date

Week 12 Friday (2 June 2023) 11:59 pm AEST
Submit electronically via Moodle with your name, unit code and assignment number i.e. NAME_ENAR12004_Assignment _3

Return Date to Students

Assignments will be marked and returned within two weeks of submission.

Weighting
40%

Minimum mark or grade
50%

Assessment Criteria

- The reporting systems suitability should be justified by how well it aligns with the organisational structure recommended in assignment 1.
- The leadership development plan will include a clear description of what leadership looks like for several different roles in the mining operation.
- The plan should describe how good leaders will be identified and how good leadership will be rewarded without causing ill feeling in the workplace.
- Detail of the processes required to be followed to establish an enterprise bargaining agreement.
- Correctly cite sources of information within the text.
- Include a list of references at the end of the answer (under a separate heading).
- References should include relevant legislation.

Referencing Style

- [Harvard (author-date)](Harvard)

Submission
Online

Submission Instructions
Turnitin will be used to check submissions. Avoid academic integrity issues, check referencing. Use the link in Moodle to submit assignments.

Learning Outcomes Assessed

- Discuss mine management systems
- Apply the principles of mine management to given mine related situations and issues
- Explain the purpose, structure, design and operation of mining organisations
- Discuss the practice of industrial relations in mine management and mine operations
- Discuss and explain the relevant Mine Safety and Inspections Acts and Regulations
- Assess mine organisational risk management

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Cross Cultural Competence
- Ethical practice

4 Learning Portfolio

Assessment Type
Portfolio

Task Description
The "Learning Portfolio" provides an opportunity to reflect on learning. The Learning Portfolio records any work and reading that is relevant to the learning outcomes detailed in the course profile. Record and demonstrate evidence of all

of the learning outcomes detailed for this unit, particularly teamwork, cultural sensitivity and ethical values. The Learning Portfolio provides an opportunity to discuss learning experiences online. It is also a record of websites, texts and journal articles that may be useful for future reference.

There are three sections to the Learning Portfolio:

1. Study Diary
2. Learning Reflections
3. Interactions

This assessment does not require a high-quality presentation. It just needs to demonstrate evidence of regular weekly work undertaken towards completion of the unit.

Assessment Due Date
Review/Exam Week Friday (9 June 2023) 11:59 pm AEST
Submit electronically via Moodle with your name, unit code and assessment name i.e.
NAME_ENAR12004_Learning_Portfolio

Return Date to Students

Assignments will be marked and returned within two weeks of submission.

Weighting
Pass/Fail

Minimum mark or grade
PASS/FAIL

Assessment Criteria
The "Learning Portfolio" will contain,
   a) regular weekly updates,
   b) evidence of research and reading beyond the provided unit material,
   c) mapping of unit and learning material to the learning outcomes,
   d) evidence of interactions with academic staff, peers, or work colleagues related to this unit.

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Turnitin will be used to check submissions. Avoid academic integrity issues. Use the link in Moodle to submit assignments.

Learning Outcomes Assessed

- Demonstrate an effective, professional level of teamwork and communication and support collaborative peer group learning.

Graduate Attributes

- Communication
- Critical Thinking
- Information Literacy
- Team Work
- Information Technology Competence
- Cross Cultural Competence
- Ethical practice

Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the **Student Academic Integrity Policy and Procedure**. This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

What is a breach of academic integrity?
A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

Why is academic integrity important?
A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

Where can I get assistance?
For academic advice and guidance, the Academic Learning Centre (ALC) can support you in becoming confident in completing assessments with integrity and of high standard.

What can you do to act with integrity?

Be Honest
If your assessment task is done by someone else, it would be dishonest of you to claim it as your own

Seek Help
If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)

Produce Original Work
Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem