



Course Profiles

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MINE7032 - Sustainable Management of Risk in Industry

Semester: Sem 1 2019 | **Location:** St Lucia | **Mode:** External

Printed: 02 July 2019, 12:28 am

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1. General Course Information

UQ Students: Please access the profile from [Learn.UQ \(https://learn.uq.edu.au/\)](https://learn.uq.edu.au/) or [mySI-net \(https://www.sinet.uq.edu.au/\)](https://www.sinet.uq.edu.au/) to access all course contributor details held in this profile.

1.1 Course Details

Course Code: MINE7032

Course Title: Sustainable Management of Risk in Industry

Coordinating Unit: School of Mechanical and Mining Engineering

Semester: Semester 1, 2019

Mode: External

Level: Postgraduate Coursework

Location: St Lucia

Number of Units: 2

Restrictions: Quota: Minimum of 5 enrolments

Course Description: (Minimum enrolment quota of 5 students.) This Sustainable Management of Risk in Industry course covers the principles and application of risk management methods to help industry achieve a range of objectives including operational performance, human well-being, environmental impact and stakeholder-related objectives. Students will be expected to identify, demonstrate and critique the use of some risk management methods. The goal will be to provide students with the knowledge that allows them to apply risk management principles all facets of a business in ways that deliver overall system performance improvements.

Assumed Background:

Students undertaking this course are assumed to have a background in engineering, science, or other relevant field. Current employment in industry is strongly recommended for completing assessment tasks.

1.2 Course Introduction

This Sustainable Management of Risk in Industry – An Integrated System Approach course covers the principles and application of risk management methods that can be used by industry to achieve its objectives and deliver overall system performance improvements. The goal will be to provide students with the knowledge that will allow them to understand and apply risk management principles to all facets of a business from human, technical, environmental, and commercial perspectives. Students will also be given opportunities to select, apply, and critique the use of some risk management methods on industrial case studies.

Traditionally, risk management has been compartmentalised and taught into each discipline separately. Good business decisions consider all the things that might impact an organisation's ability to achieve its objectives. This course is designed to help students to use the principles of risk management in developing an integrated way of making informed decisions which consider the full spectrum of industrial activities including operational, financial, environmental, community, and occupational health and safety. Applying risk management principles to all facets of an operation can improve a business' ability to make more informed risk-based decisions and to get better business outcomes.

Course Changes in Response to Previous Student Feedback

Statistics and readings have been updated to reflect changes in industry.

Four learning cycles has been reduced to three.

1.3 Course Staff

Course Coordinator: Ms Sharyn Cobbin

Email: s.cobbin@uq.edu.au (<mailto:s.cobbin@uq.edu.au>)

Lecturer: Ms Carmel Bofinger

Lecturer: Ms Sharyn Cobbin

UQ Students: Please access the profile from [Learn.UQ](https://learn.uq.edu.au/) (<https://learn.uq.edu.au/>) or [mySI-net](https://www.sinet.uq.edu.au/) (<https://www.sinet.uq.edu.au/>) to access all course contributor details held in this profile.

1.4 Timetable

Timetables are available on [mySI-net](https://www.sinet.uq.edu.au/). (<https://www.sinet.uq.edu.au/>)

Timetables are subject to change during the beginning of semester. For up to date timetable information please check [mySI-net](https://www.sinet.uq.edu.au/) (<https://www.sinet.uq.edu.au/>). For any SignOn enquiries, please email signon@eait.uq.edu.au (<mailto:signon@eait.uq.edu.au>)

Additional Timetable Information

This course is external and hosted through UQ's online learning platform, Blackboard. There are no formal teaching hours, however weekly participation in discussion boards is expected.

3. Learning Resources

3.1 Required Resources

Hillson, D., (2010). *Exploiting future uncertainty: Creating value from risk*. Burlington, VT; Farnham, Surrey, England: Gower.

3.2 Recommended Resources

No recommended learning resources

3.3 University Learning Resources

Access to required and recommended resources, plus past central exam papers, is available at the UQ Library website (<http://www.library.uq.edu.au/lr/MINE7032> (<http://www.library.uq.edu.au/lr/MINE7032>)).

The University offers a range of resources and services to support student learning. Details are available on the myUQ website (<https://my.uq.edu.au/> (<https://student.my.uq.edu.au/>)).

4. Teaching & Learning Activities

4.1 Learning Activities

Date	Activity	Learning Objectives
25 Feb 19 - 01 Mar 19	W1: Introduction to Risk Management (Self Directed Learning)	1, 2
04 Mar 19 - 08 Mar 19	W2: Risk Management Scope (Self Directed Learning)	1, 2
04 Mar 19 - 15 Mar 19	Learning Cycle 1 (Discussion)	1, 2
11 Mar 19 - 15 Mar 19	W3: Foundations of Risk Management (Self Directed Learning)	1, 2
18 Mar 19 - 22 Mar 19	Critical Reflection Journal 1 (Journals)	1, 2
18 Mar 19 - 22 Mar 19	W4: Humans and Risk (Self Directed Learning)	1, 2, 3
25 Mar 19 - 29 Mar 19	Online Quiz (Diagnostic Quiz/Exam)	1, 2, 3
25 Mar 19 - 29 Mar 19	W5: Risk Management and Decision Making Theories (Self Directed Learning)	1, 2, 3
25 Mar 19 - 12 Apr 19	Learning Cycle 2 (Discussion)	1, 2, 3

Date	Activity	Learning Objectives
29 Mar 19 - 29 Apr 19	A1: Hazard Analysis Report (Independent Study)	1, 2, 3, 4
01 Apr 19 - 05 Apr 19	W6: Risk identification and assessment A (Self Directed Learning)	1, 4
08 Apr 19 - 12 Apr 19	Critical Reflection Journal 2 (Journals)	1, 2, 3
08 Apr 19 - 12 Apr 19	W7: Risk identification and assessment B (Self Directed Learning)	1, 4
15 Apr 19 - 19 Apr 19	W8: Risk treatment and management A (Self Directed Learning)	1, 4
15 Apr 19 - 24 May 19	Learning Cycle 3 (Discussion)	1, 4, 5
15 Apr 19 - 31 May 19	A2: Incident Analysis Report (Independent Study)	1, 2, 3, 4, 5
29 Apr 19 - 03 May 19	W9: Risk treatment and management B (Self Directed Learning)	1, 4, 5
07 May 19 - 10 May 19	W10: Event Investigation A (Self Directed Learning)	1, 4, 5
13 May 19 - 17 May 19	W11: Event Investigation B (Self Directed Learning)	1, 4, 5
20 May 19 - 24 May 19	Critical Reflection Journal 3 (Journals)	4, 5
20 May 19 - 24 May 19	W12: Risk Management Governance (Self Directed Learning)	1, 2, 4, 5
27 May 19 - 31 May 19	W13: Risk and sustainability (Self Directed Learning)	1, 2, 5

5. Assessment

UQ students: Please access the profile from [Learn.UQ \(https://learn.uq.edu.au/\)](https://learn.uq.edu.au/) or [mySI-net \(https://www.sinet.uq.edu.au/\)](https://www.sinet.uq.edu.au/) to access all course contributor details held in this profile.

5.1 Assessment Summary

This is a summary of the assessment in the course. For detailed information on each assessment, see [5.5 Assessment Detail](#) below.

Assessment Task	Due Date	Weighting	Learning Objectives
<i>Participation</i> Participation and Learning Journal	Throughout the Semester	15%	1, 2, 3, 4, 5
<i>Online Quiz</i> Fundamentals of Risk Management	25 Mar 19 9:00 - 29 Mar 19 17:00 Week 5	25%	1, 2
<i>Report</i> Hazard Analysis Report	03 May 19 17:00	25%	1, 2, 3, 4
<i>Report</i> Incident Analysis Report	31 May 19 17:00	35%	4, 5

5.2 Course Grading

Grade X: No assessable work received.

Grade 1, Fail: Fails to demonstrate most or all of the basic requirements of the course:

Grade 1 = <20%

Grade 2, Fail: Demonstrates clear deficiencies in understanding and applying fundamental concepts; communicates information or ideas in ways that are frequently incomplete or confusing and give little attention to the conventions of the discipline:

Grade 2 = >20%

Grade 3, Fail: Demonstrates superficial or partial or faulty understanding of the fundamental concepts of the field of study and limited ability to apply these concepts; presents undeveloped or inappropriate or unsupported arguments; communicates information or ideas with lack of clarity and inconsistent adherence to the conventions of the discipline:

Grade 3 = >45%

Grade 4, Pass: Demonstrates adequate understanding and application of the fundamental concepts of the field of study; develops routine arguments or decisions and provides acceptable justification; communicates information and ideas adequately in terms of the conventions of the discipline:

Grade 4 = >50%

Grade 5, Credit: Demonstrates substantial understanding of fundamental concepts of the field of study and ability to apply these concepts in a variety of contexts; develops or adapts convincing arguments and provides coherent justification; communicates information and ideas clearly and fluently in terms of the conventions of the discipline:

Grade 5 = >65%

Grade 6, Distinction: As for 5, with frequent evidence of originality in defining and analysing issues or problems and in creating solutions; uses a level, style and means of communication appropriate to the discipline and the audience:

Grade 6 = >75%

Grade 7, High Distinction: As for 6, with consistent evidence of substantial originality and insight in identifying, generating and communicating competing arguments, perspectives or problem solving approaches; critically evaluates problems, their solutions and implications:

Grade 7 = >85%

5.3 Late Submission

The submission of progressive assessment material on the due date as set out in this Electronic Course Profile is the sole responsibility of the student. Students should not leave assignment preparation until the last minute and must plan their workloads to meet advertised or notified deadlines. It is your responsibility to manage your time effectively.

Assessment items received after the due date will receive a zero mark unless you have been approved to submit the assessment item after the due date.

However, if there are [medical or exceptional circumstances](https://my.uq.edu.au/information-and-services/manage-my-program/exams-and-assessment/applying-extension) that will affect your ability to complete an assessment by the due date, then you can apply for an extension via the following methods:

Mid-Semester Examinations (includes Oral Presentation, Written Examination or Laboratory Practical held during the teaching weeks of semester):

You can find further information on deferred mid-semester examinations [online](https://my.uq.edu.au/information-and-services/manage-my-program/exams-and-assessment/deferring-exam) and instructions on how to submit your application via mySI-net are available [online](https://my.uq.edu.au/node/189/3#3). All applications for deferred mid-semester examinations must be submitted online via mySI-net > myRequests. Hard copy application forms or requests received via email will not be considered.

Other Assignments:

Extensions to all other assessment items must be requested via [my.UQ](https://my.uq.edu.au/). You can find instructions on how to submit your request [online](https://my.uq.edu.au/information-and-services/manage-my-program/exams-and-assessment/applying-extension).

While a scanned copy or clear photographic image of the supporting documentation is acceptable, you must retain the original documentation for a minimum period of six (6) months to provide as verification should you be requested to do so. Failure to produce the original documentation for verification may result in the approval of your extension being rescinded.

An extension application granted on medical grounds will be approved for the number of calendar days the medical certificate indicates you were unfit for study. Students who are ill for more than 14 days should consider applying for [withdrawal without academic penalty](https://my.uq.edu.au/information-and-services/manage-my-program/classes-timetables-and-coursework/withdrawing-course-or-program).

Requests must be made at least 72 hours prior to the submission deadline, unless the medical or other circumstances are such that you could not reasonably be expected to have applied by then. Requests for extensions which are received on or after the due date may not be considered.

Extensions may not be possible for some pieces of assessment (such as assignments for which solutions are posted immediately after the submission deadline or in the case of group work). Where an extension cannot be granted for such reasons, the Course Coordinator may propose equivalent assessment.

Requests for extensions are considered by the Head of School in consultation with the Course Coordinator. Once finalised, you will receive notification of the outcome via mySI-net or my.UQ (the method of application).

5.4 Other Assessment Information

Assessment tasks for this course are administered through Blackboard.

A discussion board and learning journal will be available throughout the semester. The online quiz and Turn-It-In submission links will appear two weeks before the due date.

SUPPLEMENTARY ASSESSMENT

Supplementary assessment is an additional opportunity to demonstrate that the learning requirements for an eligible course have been satisfied and that the graduate attributes for the course have been attained. Supplementary assessment may only be granted where PPL 3.10.09 Supplementary Assessment – procedures allow.

A grade of 4 (or P) is the highest grade that can be awarded in a course where supplementary assessment has been granted. For further information on supplementary assessment please see my.UQ <https://my.uq.edu.au/> (<https://my.uq.edu.au/>)

5.5 Assessment Detail

Participation and Learning Journal

Type: Participation

Learning Objectives Assessed: 1, 2, 3, 4, 5

Due Date: Throughout the Semester

Weight: 15%

Task Description:

This course uses two forms of weekly participation in learning cycles of discussion boards and a learning journal. A timetable of the learning cycles is provided on Blackboard.

A learning module on developing critical reflection skills and frameworks that can be used for critical reflection will be provided in Week 1. The aim of the learning cycle is to build skills over the semester and through assessment tasks.

Discussion Board

From Week 2, a discussion board will be available with questions relating to each week's content. The questions will require students to answer from their own experience and to incorporate the material covered in each week's learning guide. Comment and engagement with other students and your lecturer is encouraged.

Learning Journal

Starting in Week 4, students will have access to a private learning journal within Blackboard. Students will be guided through the process of critically reflecting on the previous two weeks of discussions, the course content, and the literature provided. Students are encouraged to use this space for questioning their own assumptions regarding risk, reflecting on their own workplace, and to work through issues and concepts that they may need clarification on. Your lecturer will provide feedback and be available to answer questions. A discussion board will be available during the learning journal week for students to share reflections if they choose.

Criteria & Marking:

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Fundamentals of Risk Management

Type: Online Quiz

Learning Objectives Assessed: 1, 2

Due Date: 25 Mar 19 9:00 - 29 Mar 19 17:00 Week 5

Weight: 25%

Reading: 0 minutes

Duration: 60 minutes

Format: Multiple-choice, Short answer, Problem solving

Task Description:

This quiz tests your understanding of the concepts and foundations of Risk Management covered in the first four weeks of this course.

The quiz will consist of 30 multiple-choice questions and 5 short answer questions administered through Blackboard. You will have one hour to complete the questions and the quiz must be completed in one sitting, so please allow yourself enough time to finish.

The quiz will become active under the 'Assignments' tab in Blackboard on Monday of Week 5 at 9am and will **close on Friday of Week 5 at 5pm**.

Criteria & Marking:

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Hazard Analysis Report

Type: Report

Learning Objectives Assessed: 1, 2, 3, 4

Due Date: 03 May 19 17:00

Weight: 25%

Task Description:

You will be provided with a case study of an industrial hazardous scenario for analysis. A video will be shown describing the scenario and additional background information will also be supplied.

There are two parts to this assignment:

Part A: Hazard Analysis

Part B: Critical Reflection and Analysis

Part A: Hazard Analysis (1,500 words)

Using your knowledge of the fundamentals of Risk Management, and the tools and techniques examined in Module 2:

Review a range of techniques to identify hazards related to the scopes of work as shown in the case study. Choose a small number to undertake a SWOT analysis covering:

> Human perspective

- > Technical perspective
- > Organisational perspective
- > Environmental perspective

A detailed analysis of the case study using some of the technique(s) identified in Part A and the development of recommendations to minimise the risk of an unwanted event. One of these techniques must be a bow-tie analysis. Discuss why your reasoning for your choice of technique(s) for analysis, not just the outcomes of the analysis.

Part B: Critical Reflection and Analysis (500 words)

Upon completion of your hazard analysis, critically reflect on how you can apply these hazard identification techniques to your own workplace. Consider what you have learnt from your analysis; what assumptions you made in your identification of risk, hazards, and the systems they operate in; and, what has been confirmed or challenged about your own management of risk in your working environment.

Perform a SWOT analysis (in table format) for the range of techniques in Part A as applied to your own work environment.

Maximum word count: 2,000 words

Criteria & Marking:

UQ Students: Please access the profile from [Learn.UQ \(https://learn.uq.edu.au/\)](https://learn.uq.edu.au/) or [mySI-net \(https://www.sinet.uq.edu.au/\)](https://www.sinet.uq.edu.au/) to access marking criteria held in this profile.

Submission:

Submit electronically through Turn-It-In in Blackboard.

Incident Analysis Report

Type: Report

Learning Objectives Assessed: 4, 5

Due Date: 31 May 19 17:00

Weight: 35%

Task Description:

Using the same case study as for the Hazard Analysis Report, examine the incident that has occurred which has resulted in human injury and asset damage.

There three parts to this assignment:

Part A: Critique of literature

Part B: Analysis of incident and recommendations

Part C: Critical reflection and analysis

Part A: Critique of literature (800 words)

From a selection of the Risk Management and Incident Investigation literature provided, critique two to three articles. Consider how the literature informs implementation of RM in the workplace and it's limitations.

Part B: Analysis of incident and recommendations (1,700 words)

Conduct a SWOT analysis of a range of risk analysis and incident analysis techniques covered in this semester. A minimum of five techniques are to be examined and no more than ten.

Using two incident analysis techniques from the Hazard Analysis Report (bow-tie and one other), analyse the incident and identify gaps in the initial hazard analysis you conducted in the Hazard Analysis Report. From your analysis, make recommendations on Risk Assessment Identification and Hazard Control within the workplace.

Part C: Critical Reflection and Analysis (1,000 words)

Upon completion of your incident analysis, undertake a SWOT Analysis of Risk Management practices in your own workplace.

Provide an analysis of the identified gaps between the Hazard Analysis Report and the Incident Analysis Report and what you have learnt from the process of the Incident Analysis Report.

Critically reflect on what you have learnt from the literature and your analysis; what assumptions have you made regarding risk, hazards, and the systems they operate in; and, what has been confirmed or challenged about the overall workplace system and/or your own management of risk in your working environment. Identify how your analysis can inform your ongoing risk management practice.

Maximum word count: 3,500 words

Criteria & Marking:

UQ Students: Please access the profile from [Learn.UQ \(https://learn.uq.edu.au/\)](https://learn.uq.edu.au/) or [mySI-net \(https://www.sinet.uq.edu.au/\)](https://www.sinet.uq.edu.au/) to access marking criteria held in this profile.

Submission:

Submit electronically through Turn-It-In in Blackboard.

Learning Summary

Below is a table showing the relationship between the learning objectives for this course and the broader graduate attributes developed, the learning activities used to develop each objective and the assessment task used to assess each objective.

Learning Objectives

After successfully completing this course you should be able to:

- 1 Describe risk management and its application and importance in helping industry achieve their objectives (i.e. In terms of safety, cost, productivity, environmental, and reputational performance).
- 2 Identify and define the key terms, frameworks (e.g. ISO 31000, safe operating zones, Maturity chart) and processes used (e.g. hazard identification, risk assessment, control selection, and management).
- 3 Describe some of the common human factors contributions that can influence human well-being and productivity in industrial settings, as well as overall system performance.
- 4 Identify and demonstrate the use of some risk management methods that can be used prospectively (e.g. beforehand) or retrospectively (e.g. after an event).
- 5 Review and critique a risk management process or report and formulate recommendations for further improvement of risk management in a system being reviewed or reported on.

Assessment & Learning Activities

	Learning Objectives				
	1	2	3	4	5
Learning Activities					
W1: Introduction to Risk Management (Self Directed Learning)	●	●			
W2: Risk Management Scope (Self Directed Learning)	●	●			
Learning Cycle 1 (Discussion)	●	●			
W3: Foundations of Risk Management (Self Directed Learning)	●	●			
Critical Reflection Journal 1 (Journals)	●	●			
W4: Humans and Risk (Self Directed Learning)	●	●	●		
Online Quiz (Diagnostic Quiz/Exam)	●	●	●		
W5: Risk Management and Decision Making Theories (Self Directed Learning)	●	●	●		
Learning Cycle 2 (Discussion)	●	●	●		
A1: Hazard Analysis Report (Independent Study)	●	●	●	●	
W6: Risk identification and assessment A (Self Directed Learning)	●			●	
Critical Reflection Journal 2 (Journals)	●	●	●		
W7: Risk identification and assessment B (Self Directed Learning)	●			●	
W8: Risk treatment and management A (Self Directed Learning)	●			●	
Learning Cycle 3 (Discussion)	●			●	●
A2: Incident Analysis Report (Independent Study)	●	●	●	●	●
W9: Risk treatment and management B (Self Directed Learning)	●			●	●
W10: Event Investigation A (Self Directed Learning)	●			●	●
W11: Event Investigation B (Self Directed Learning)	●			●	●
Critical Reflection Journal 3 (Journals)				●	●
W12: Risk Management Governance (Self Directed Learning)	●	●		●	●

	Learning Objectives				
W13: Risk and sustainability (Self Directed Learning)	●	●			●
Assessment Tasks					
Participation and Learning Journal (Participation)	●	●	●	●	●
Fundamentals of Risk Management (Online Quiz)	●	●			
Hazard Analysis Report (Report)	●	●	●	●	
Incident Analysis Report (Report)				●	●

Graduate Attributes

Successfully completing this course will contribute to the recognition of your attainment of the following **UQ (Postgrad Coursework)** graduate attributes:

	Learning Objectives				
	1	2	3	4	5
A . IN-DEPTH KNOWLEDGE OF THE FIELD OF STUDY					
A2 . A broad understanding of the field of study, including how other disciplines relate to the field of study.	●	●	●		
A3 . A comprehensive and in-depth knowledge in the field of study.	●	●	●	●	●
A5 . An international perspective on the field of study.	●	●			
A7 . An appreciation of the link between theory and practice .	●		●	●	●
B . EFFECTIVE COMMUNICATION					
B1 . The ability to collect, analyse and organise information and ideas and to convey those ideas clearly and fluently , in both written and spoken forms .	●	●	●	●	●
B2 . The ability to interact effectively with others in order to work towards a common outcome.			●	●	●
B3 . The ability to select and use the appropriate level, style and means of communication .	●	●	●	●	●
B4 . The ability to engage effectively and appropriately with information and communication technologies .	●	●	●	●	●
B5 . The ability to practise as part of an interdisciplinary team .				●	●
C . INDEPENDENCE AND CREATIVITY					
C2 . The ability to work and learn independently and effectively .	●	●	●	●	●
C3 . The ability to generate ideas and adapt innovatively to changing environments.				●	●
C5 . The ability to formulate and investigate problems, create solutions, innovate and improve current practices .				●	●
C6 . The abilities and skills that provide a foundation for future leadership roles.	●	●	●	●	●
D . CRITICAL JUDGEMENT					
D2 . The ability to apply critical reasoning to issues through independent thought and informed judgement .				●	●
D4 . The ability to process material and to critically analyse and integrate information from a wide range of sources.				●	●
D5 . The ability to evaluate opinions, make decisions and to reflect critically on the justifications for decisions using an evidence-based approach .				●	●
E . ETHICAL AND SOCIAL UNDERSTANDING					
E1 . An understanding of social and civic responsibility .	●	●	●		
E3 . An appreciation of the philosophical and social contexts of a discipline.	●	●	●	●	●

	Learning Objectives				
E4. A knowledge and respect of ethics and ethical standards in relation to a major area of study.	●	●	●		
E5. A knowledge of other cultures and times and an appreciation of cultural diversity .	●		●		
E7. The ability to work effectively and sensitively across all areas of society .	●		●		
E8. An understanding of and respect for the roles and expertise of associated disciplines .	●	●	●		

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