



AINV20006 Safety and Accident Phenomenology

Term 1 - 2021

Profile information current as at 20/04/2024 10:33 pm

All details in this unit profile for AINV20006 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 will enable you to understand the phenomena of accidents from an epidemiological perspective and apply your learning to actively improve safety. You will use an analytical approach to evaluate risk and demonstrate an understanding of both failures and failure prevention methods. As part of your study in the unit you will apply a range of theoretical accident causation models to systems failures, while understanding their effective characteristics, including the strengths and weaknesses of these models. On completion, you will be able to articulate the evolution of principles, methods and models relating to the phenomenology and epidemiology of accidents, accident prevention systems and forensic analysis of accident data.

Details

Career Level: *Postgraduate*

Unit Level: *Level 8*

Credit Points: *12*

Student Contribution Band: *8*

Fraction of Full-Time Student Load: *0.25*

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 - 2021

- 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 12-credit Postgraduate unit at CQUniversity requires an overall time commitment of an average of 25 hours of study per week, making a total of 300 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. **Group Discussion**

Weighting: 20%

2. **Written Assessment**

Weighting: 20%

3. **Practical Assessment**

Weighting: 30%

4. **Written Assessment**

Weighting: 30%

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 Have Your Say

Feedback

Lecturers were very informative and personable which made the learning experience enjoyable.

Recommendation

Continue to use lecturers with very good understanding of the material and good communication ethos.

Feedback from Have Your Say

Feedback

Moodle site layout was difficult to navigate.

Recommendation

Review the layout of the Moodle site and consider moving from the social platform to the collapsed topic platform.

Unit Learning Outcomes

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

1. Examine the existence of multiple interpretations of reality and their impact on the recognition of accident pathogens and causation factors
2. Appraise contemporary concepts and methods, defining logic, reasoning and evidence based practice
3. Analyse the nature of risk, systems, systems failure and failure prevention methods
4. Explain the evolution of accident epidemiology and the precepts of accident causation
5. Apply accident causation models to explain the accident phenomenon.

Alignment of Learning Outcomes, Assessment and Graduate Attributes



Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
1 - Group Discussion - 20%	•	•	•	•	•
2 - Written Assessment - 20%	•	•	•		
3 - Written Assessment - 60%			•	•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
1 - Knowledge	<input type="radio"/>				
2 - Communication	<input type="radio"/>				
3 - Cognitive, technical and creative skills	<input type="radio"/>				
4 - Research	<input type="radio"/>				
5 - Self-management	<input type="radio"/>				
6 - Ethical and Professional Responsibility	<input type="radio"/>				
7 - Leadership					
8 - 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
1 - Group Discussion - 20%	<input type="radio"/>							
2 - Written Assessment - 20%	<input type="radio"/>							
3 - Written Assessment - 60%	<input type="radio"/>							

Textbooks and Resources

Textbooks

There are no required textbooks.

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)

Referencing Style

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

Teaching Contacts

Sarah Munn Unit Coordinator
s.munn@cqu.edu.au

Schedule

Week 1 - 08 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
Pre-recorded lecture: Introduction & Unit Overview	Applicable readings will be provided in Moodle	No tutorial

Week 2 - 15 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
Pre-recorded lecture: The Accident Phenomenon	Applicable readings will be provided in Moodle	Tutorial: On demand

Week 3 - 22 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
Pre-recorded lecture: The Accident Phenomenon (cont'd)	Applicable readings will be provided in Moodle	Tutorial: On demand

Week 4 - 29 Mar 2021

Module/Topic	Chapter	Events and Submissions/Topic
Pre-recorded lecture: The Evolution of Accident Investigation and Prevention	Applicable readings will be provided in Moodle	Tutorial: On demand Group Discussion and Mind Maps Due: Week 4 Friday (2 Apr 2021) 5:00 pm AEST

Week 5 - 05 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic
Pre-recorded lecture: Heinrich's Domino Theory	Applicable readings will be provided in Moodle	Tutorial: On demand

Vacation Week - 12 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic
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Week 6 - 19 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic
Pre-recorded lecture: The Haddon Matrix	Applicable readings will be provided in Moodle	Tutorial: On demand Accident Prevention Paper Due: Week 6 Wednesday (21 Apr 2021) 5:00 pm AEST

Week 7 - 26 Apr 2021

Module/Topic	Chapter	Events and Submissions/Topic
Pre-recorded lecture: Reason's System Safety Management Model	Applicable readings will be provided in Moodle	Tutorial: On demand

Week 8 - 03 May 2021

Module/Topic	Chapter	Events and Submissions/Topic
Pre-recorded lecture: Viner's Energy Damage Model & Time Sequence Model	Applicable readings will be provided in Moodle	Tutorial: On demand

Week 9 - 10 May 2021

Module/Topic	Chapter	Events and Submissions/Topic
Pre-recorded lecture: The Tapestry of Failure	Applicable readings will be provided in Moodle	Tutorial: On demand Theoretical Accident Causation Models Due: Week 9 Friday (14 May 2021) 5:00 pm AEST
Week 10 - 17 May 2021		
Module/Topic	Chapter	Events and Submissions/Topic
Pre-recorded lecture: Safety II and the Accident Phenomenon	Applicable readings will be provided in Moodle	Tutorial: On demand
Week 11 - 24 May 2021		
Module/Topic	Chapter	Events and Submissions/Topic
Pre-recorded lecture: Preparing for your final report.	Applicable readings will be provided in Moodle	Tutorial: On demand
Week 12 - 31 May 2021		
Module/Topic	Chapter	Events and Submissions/Topic
Independent study		No tutorial
Review/Exam Week - 07 Jun 2021		
Module/Topic	Chapter	Events and Submissions/Topic
		Theoretical Accident Causation Models: Evaluation Report Due: Review/Exam Week Friday (11 June 2021) 5:00 pm AEST
Exam Week - 14 Jun 2021		
Module/Topic	Chapter	Events and Submissions/Topic

Assessment Tasks

1 Group Discussion and Mind Maps

Assessment Type

Group Discussion

Task Description

Four discussion subjects related to the history of accidents and investigation will be put up on the Moodle site in Week one.

You must post your own considered opinion **on each of the four topics** and also **respond to and comment upon one of your fellow students posts in each topic**.

You must then prepare and submit a Mind Map from **two** of the four subjects that summarises the concepts and issues from the on-line discussions and your own research and experience.

Further information will be provided in Moodle.

Assessment Due Date

Week 4 Friday (2 Apr 2021) 5:00 pm AEST

Return Date to Students

Two weeks following submission

Weighting

20%

Minimum mark or grade

Students must achieve a minimum mark of 50% for the unit overall.

Assessment Criteria

Each Mind Map will be worth 4 marks (total of 8 marks for Mind Maps). The balance of 12 marks for this assessment will be allocated for your contribution to the on-line discussions.

Referencing Style

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

Submission

Online

Learning Outcomes Assessed

- Examine the existence of multiple interpretations of reality and their impact on the recognition of accident pathogens and causation factors.
- Appraise contemporary concepts and methods defining logic, reasoning and evidence based practice.
- Analyse the nature of risk, systems, systems failure and failure prevention methods.

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management
- Ethical and Professional Responsibility

2 Accident Prevention Paper

Assessment Type

Written Assessment

Task Description

Write a paper to describe why you think accidents are still occurring after more than 100 years of "modern" approaches to accident prevention.

Your paper needs to draw conclusions from a comprehensive review of the relevant literature and any from this unit to date. Where you draw conclusions from specific industries or individual cases or circumstances, you must demonstrate how these industry examples, cases or circumstances are representative of the overall accident phenomenon affecting modern society.

Your paper should be a maximum of 1500 words and your arguments should be supported by appropriate citations from the literature and applicable case studies. Your work should be correctly referenced using the current CQUni Harvard author/date referencing style. A list of all references used should be included at the end of your paper.

Assessment Due Date

Week 6 Wednesday (21 Apr 2021) 5:00 pm AEST

Return Date to Students

Two weeks following submission

Weighting

20%

Minimum mark or grade

Students must achieve a minimum of 50% for the unit overall

Assessment Criteria

A rubric will be made available in Moodle.

- Viewpoint as to why accidents are still occurring and draws from the learnings in the literature and the unit
- Logical argument
- Consistently accurate spelling and grammar
- Referencing

Referencing Style

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

Submission

Online

Learning Outcomes Assessed

- Analyse the nature of risk, systems, systems failure and failure prevention methods.

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management
- Ethical and Professional Responsibility

3 Theoretical Accident Causation Models

Assessment Type

Practical Assessment

Task Description

This assessment task has three parts.

You will investigate the literature relating to **ONE** of the theoretical accident models and prepare a position paper.

PART A

You will select one accident model from the following list:

Heinrich's Domino Theory

Haddon Matrix

Reason System Safety Management Model

Time Sequence Model

Extended Energy Damage Model

PART B

From the list below, choose two elements:

i. Technology

ii. Systems

iii. Human Factors

iv. Social and organisational networks, including management and supervision

v. Education & Training

vi. Culture

Using the two elements, explore the literature and discuss the theoretical underpinnings of the chosen model in relation to its effectiveness in addressing failure.

PART C

Discuss the model's guidance on:

i) Establishing and validating corrective, remedial and preventative actions

ii) Learning from failure in general

Your position paper should be limited to 2000 words maximum and be supported by relevant citations from the literature.

Your paper MUST be written in the third person.

Assessment Due Date

Week 9 Friday (14 May 2021) 5:00 pm AEST

Return Date to Students

Two weeks following submission

Weighting

30%

Minimum mark or grade

Students must achieve a minimum of 50% for the unit overall

Assessment Criteria

The following assessment criteria will apply:

1. Explores the literature and discusses the theoretical underpinnings of the chosen model
2. Discusses the effectiveness in addressing failures in two of the chosen elements and the models guidance in learning from failure
3. A logical argument is presented
4. Grammar and spelling are consistently accurate

5. References—includes the provision of a reference list and the application of the Harvard style for referencing information, data, tables or images sourced for the assignment

A rubric will be made available in Moodle.

Referencing Style

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

Submission

Online

Learning Outcomes Assessed

- Explain the evolution of accident epidemiology and the precepts of accident causation.
- Apply accident causation models to explain the accident phenomenon.

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management
- Ethical and Professional Responsibility

4 Theoretical Accident Causation Models: Evaluation Report

Assessment Type

Written Assessment

Task Description

This assessment task has three parts.

In this assessment task you will choose one accident case study from the list provided in Moodle to evaluate the effectiveness of **TWO** selected theoretical accident causation models in explaining the failures which occurred in your chosen case study.

PART A

Select two theoretical accident models (**different to that chosen for Assessment Task three**) from the following list:

Heinrich's Domino Theory

Haddon Matrix

Reason System of Safety Management Model

Time Sequence Model

Extended Energy Damage Model

PART B

Populate the models with the critical factors from your chosen case study to explain, in the language of the models, the failures which occurred in the accident. An Excel Template will be made available in Moodle.

Next prepare a written report to contrast and explain how well the two theoretical models enabled explanation of the accident phenomena in the case study.

Your report should not exceed 2000 words. It should be supported by relevant citations (minimum of 10) from the literature.

PART C

In this part of the assessment task you will:

1. Consider Chapter 10 of Dekker's 2006 *The Field Guide to Understanding Human Error*, titled 'What is your Accident Model?'
2. Reflect on an accident that you have personal knowledge of and consider the issues of causation that you understood at the time
3. Describe the accident model, perspective or lens that you were applying to the situation at the time.
4. Compare the model, perspective or lens you applied against those you have studied in this unit.
5. Discuss any changes you would make if you were to analyse that same accident now.

You may choose the format for your response to this assessment task that suits you (eg short essay, brief report, mind

map etc).

Reference: Dekker S. (2006), *The Field Guide to Understanding Human Error*, Chapter 10 What is your Accident Model, Ashgate Publishing Limited, Farnham

Assessment Due Date

Review/Exam Week Friday (11 June 2021) 5:00 pm AEST

Return Date to Students

Two weeks following submission.

Weighting

30%

Minimum mark or grade

Students must achieve a minimum of 50% for the unit overall

Assessment Criteria

A rubric will be made available in Moodle.

PART B - 20 marks assigned for your coverage of the following:

- Theoretical Models Report - populates the two models with the critical factors from the case study selected
- Evaluate and compare how well the two theoretical models enabled explanation of the accident phenomena
- Discussed the perceived strengths and weaknesses of the chosen models in describing the accident phenomenon
- Addressed the key characteristics of the models which enabled the tapestry of failures which led to the accident

PART C - 10 marks assigned for your coverage of the following:

- Evidence of consideration of Dekker (2006) *The Field Guide to Understanding Human Error*, Chapter 10 - 'What is your Accident Model?'
- Reflected on an accident from your own personal or professional experience
- Considered the issues of causation you understood at the time and describe the accident "model", perspective or "lens" that you were unconsciously applying to the situation
- Compared and contrasted the model, perspective or lens you applied against those you have studied in this course
- Discussed the changes you would apply if you were to analyse that same accident now

Referencing Style

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

Submission

Online

Learning Outcomes Assessed

- Explain the evolution of accident epidemiology and the precepts of accident causation.
- Apply accident causation models to explain the accident phenomenon.

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management
- Ethical and Professional Responsibility

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