AINV12002 *Accident Phenomenology*
Term 1 - 2024

Profile information current as at 10/05/2024 02:34 am

All details in this unit profile for AINV12002 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 provide students with the basis for explaining the evolution of accident investigation methods and practice. On completion, students will be able to explain the characteristics, strengths and weaknesses of key theoretical accident causation models and apply the models to accident scenarios.

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 - 2024

- 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. **Online Quiz(zes)**
Weighting: 10%
2. **Written Assessment**
Weighting: 20%
3. **Practical Assessment**
Weighting: 20%
4. **Written Assessment**
Weighting: 50%

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 Verbal feedback

Feedback

Students enjoyed the use of real life examples to enlighten their learning.

Recommendation

Ensure that real life examples are included in the teaching materials .

Unit Learning Outcomes

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

1. Analyse the evolution of accident investigation methods and practice.
2. Use accident causation models to establish accident causation factors.
3. Apply accident causation models to contemporary accident case studies.
4. Evaluate the application and effectiveness of accident causation models.
5. Employ effective communication strategies appropriate to accident phenomenology.
6. Demonstrate reflective skills appropriate to the development of the intermediate practitioner.

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
1 - Online Quiz(zes) - 10%					•	•
2 - Written Assessment - 20%	•				•	
3 - Practical Assessment - 20%		•	•			•
4 - Written Assessment - 50%	•	•	•	•	•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
1 - Communication	•				•	
2 - Problem Solving		•	•			

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
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 - Online Quiz(zes) - 10%	•		•	•		•		•		
2 - Written Assessment - 20%	•			•		•				
3 - Practical Assessment - 20%		•	•	•			•	•		
4 - Written Assessment - 50%	•	•	•	•		•	•	•		

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

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Schedule

Week 1 - 04 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Lecture: Introduction and Unit	Readings will be available in Moodle	No tutorial

Week 2 - 11 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Lecture: The Accident Phenomenon	Ferry, (1988) Modern Accident Investigation and Analysis 2nd Ed, John Wiley & Sons, New York	No tutorial

Week 3 - 18 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Lecture: The Accident Phenomenon	Readings will be available in Moodle	Tutorial time TBA

Week 4 - 25 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Lecture: Evolution of Accident Investigation and Prevention	Readings will be available in Moodle	No tutorial **Online Quiz 1** Due: Week 4 Friday (29 March 2024) 5:00 pm AEST

Week 5 - 01 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Lecture: Heinrich's Domino Theory	SIA, (2012) OHS Body of Knowledge Models of Causation: Safety, Tullamarine Hosseinian, S.S. and Torghabeh, Z.J., 2012. Major theories of construction accident causation models: A literature review. International Journal of Advances in Engineering & Technology Rad, K.G., 2013. Application of domino theory to justify and prevent accident occurance in construction sites.IOSR J. Mech. Civ. Eng. IOSR-JMCE, 6, pp.72-76.	Tutorial: Applying Heinrich's Domino Theory to a major accident Tutorial time TBA

Vacation Week - 08 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 15 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic

Lecture: The Haddon Matrix	Haddon Jr, W., 1980. Advances in the epidemiology of injuries as a basis for public policy. *Public health reports*, *95*(5), p.411. ARM, C.M., 2016. The Work of William Haddon Jr. *Professional Safety*, *61*(3), p.35. Runyan, C.W., 1998. Using the Haddon matrix: introducing the third dimension. *Injury prevention*, *4*(4), pp.302-307. Williams, A.F., 1999. The Haddon matrix: its contribution to injury prevention and control. In *Third National Conference on Injury Prevention and Control* (pp. 15-16).	Tutorial: Applying the Haddon Matrix to a major accident Tutorial time TBA **Accident Prevention Paper** Due: Week 6 Monday (15 Apr 2024) 9:00 am AEST

Week 7 - 22 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Lecture: Reason's System Safety Management Model	Reason, J., Hollnagel, E. and Paries, J., 2006. Revisiting the Swiss cheese model of accidents. *Journal of Clinical Engineering*, *27*(4), pp.110-115.	Tutorial: Applying Reason's System Safety model to a major accident. Tutorial time TBA **Online Quiz 2** Due: Week 6 Friday (19 April 2024) 5:00 pm AEST

Week 8 - 29 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Lecture: Viner's Extended Energy Damage Model and Time Sequence Model	Viner, D., 1991. *Accident analysis and risk control*. VRJ Delphi.	Tutorial: Applying Viner's models to a major accident Tutorial time TBA

Week 9 - 06 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Lecture: The Tapestry of Failure	Readings will be available in Moodle	No tutorial

Week 10 - 13 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Lecture: Learning from failure and corrective actions	Readings will be available in Moodle	Tutorial: Case Study Assignment Tutorial time TBA **Theoretical Accident Causation Models** Due: Week 10 Monday (13 May 2024) 9:00 am AEST

Week 11 - 20 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Lecture: Safety II and the Accident Phenomenon	Hollnagel, E., Wears, R.L. and Braithwaite, J., 2015. From Safety-I to Safety-II: a white paper. *The resilient health care net: published simultaneously by the University of Southern Denmark, University of Florida, USA, and Macquarie University, Australia*.	No tutorial

Week 12 - 27 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Independent Study		

Review/Exam Week - 03 Jun 2024

Module/Topic	Chapter	Events and Submissions/Topic

Case Study Report Due: Review/Exam Week Monday (3 June 2024) 9:00 am AEST

Exam Week - 10 Jun 2024

Module/Topic	Chapter	Events and Submissions/Topic

Assessment Tasks

1 Online Quiz (zes)

Assessment Type
Online Quiz(zes)

Task Description
You will be required to complete two online discussion quizzes in Moodle covering material related to the evolution of accident investigation methods and practice.There is no additional submission requirement for this assessment as students' responses to the discussion quiz will be graded online.

Number of Quizzes
2

Frequency of Quizzes
Other

Assessment Due Date

Quiz 1 - 29 March 2024 Quiz 2 - 19 April 2024

Return Date to Students

Two weeks following submission

Weighting
10%

Assessment Criteria
Grades will be applied based on the number of correct responses

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Quiz responses to be submitted in the relevant area of Moodle

Learning Outcomes Assessed

- Employ effective communication strategies appropriate to accident phenomenology.
- Demonstrate reflective skills appropriate to the development of the intermediate practitioner.

Graduate Attributes

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

2 Accident Prevention Paper

Assessment Type
Written Assessment

Task Description
You will write a short 'thinking' paper positing a point of view to describe why accidents are still occurring after more than 100 years of 'modern' approaches to accident prevention.
Your paper should be a maximum of 800 - 1000 words and your argument should be supported by a minimum of FOUR appropriate and reputable sources and citations from the literature.
A list of references used should be included at the end of your paper.

Assessment Due Date
Week 6 Monday (15 Apr 2024) 9:00 am AEST

Return Date to Students

Two weeks following due date

Weighting
20%

Minimum mark or grade
Students must achieve a minimum grade of 50%

Assessment Criteria

1. Provides a viewpoint as to why accidents are still occurring after more than a 100 years of "modern" approaches to accident prevention and draws from the learnings covered in the unit
2. A logical argument is presented Grammar and spelling are consistently accurate
3. References—includes the provision of a reference list and the application of the Harvard style for referencing

Referencing Style

- Harvard (author-date)

Submission
Online

Learning Outcomes Assessed

- Analyse the evolution of accident investigation methods and practice.
- Employ effective communication strategies appropriate to accident phenomenology.

Graduate Attributes

- Communication
- Information Literacy
- Information Technology Competence

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
- FRAM
- CAST

PART B
From the list below, choose **TWO** elements:

1. Technology Systems
2. Human Factors
3. Social and organisational networks, including management and supervision
4. Education & Training
5. Culture

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

PART C
Discuss the model's guidance on:

1. Establishing corrective, remedial and preventative actions
2. Learning from failure in general

Your position paper should be limited to 2000 words maximum and be supported by relevant citations (minimum of 8) from the literature.
Your paper **MUST** be written in the third person.

Assessment Due Date
Week 10 Monday (13 May 2024) 9:00 am AEST

Return Date to Students

Two weeks following due date

Weighting
20%

Minimum mark or grade
Students must achieve a minimim grade of 50%

Assessment Criteria
The following assessment criteria will apply:

1. Discusses the model's effectiveness in addressing accident causation in two of the chosen elements
2. Discusses the model's guidance on applying corrective, remedial and preventative actions
3. Considers the model's usefulness in learning from failure
4. A logical argument is presented
5. Grammar and spelling are consistently accurate
6. 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

Referencing Style

- Harvard (author-date)

Submission
Online

Learning Outcomes Assessed

- Use accident causation models to establish accident causation factors.
- Apply accident causation models to contemporary accident case studies.
- Demonstrate reflective skills appropriate to the development of the intermediate practitioner.

Graduate Attributes

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

4 Case Study Report

Assessment Type
Written Assessment

Task Description
This assessment task has three parts.

In this assessment task you will use an accident case study provided by your lecturer (in Moodle) to evaluate the effectiveness of TWO selected theoretical accident causation models in explaining the failures which occurred in the 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 T
- ime Sequence Model
- Extended Energy Damage Model

Part B
Populate the models with the critical factors from the case study provided by the lecturer (in Moodle) to explain, in the language of the models, the failures which occurred in the accident. A template will be provided in Moodle, or you can choose your own.

Part C
You will then prepare a written report to explain:

1. The reasons why the particular models were chosen
2. The key characteristics of the models
3. How well the models enabled explanation of the accident phenomena (the tapestry of failures which led to the accident)
4. The perceived strengths and weaknesses of the chosen models in describing the accident phenomenon

Your report should not exceed 3000 words. It should be supported by relevant citations (minimum of 10) from the literature Your report MUST be written in the **third** person.

Assessment Due Date
Review/Exam Week Monday (3 June 2024) 9:00 am AEST

Return Date to Students

Two weeks following due date

Weighting
50%

Minimum mark or grade
Students must achieve a minimim grade of 50%

Assessment Criteria

1. Selects two theoretical accident models and populates them with both the critical factors from the case study provided by the lecturer and explains, in the language of the model, the failures which occurred in the accident
2. Evaluates how well the theoretical models enabled explanation of the accident phenomena in the case study
3. Report explains the reasons why the particular models were chosen, the key characteristics of the models, the tapestry of failures which led to the accident case study, as evidenced by the application of the chosen accident models; and the perceived strengths and weaknesses of the chosen models in describing the accident phenomenon
4. A logical argument is presented
5. Grammar and spelling are consistently accurate
6. 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

Referencing Style

- Harvard (author-date)

Submission
Online

Learning Outcomes Assessed

- Analyse the evolution of accident investigation methods and practice.
- Use accident causation models to establish accident causation factors.
- Apply accident causation models to contemporary accident case studies.
- Evaluate the application and effectiveness of accident causation models.
- Employ effective communication strategies appropriate to accident phenomenology.
- Demonstrate reflective skills appropriate to the development of the intermediate practitioner.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- 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