AINV13001 *Accident Analysis*

Term 1 - 2022

Profile information current as at 12/10/2024 03:19 pm

All details in this unit profile for AINV13001 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.

Corrections

General Information

Overview

On completion of this unit students should be able to explain the characteristics, strengths and weaknesses of key theoretical accident analysis, simulation and reconstruction models. These students should also be able to apply the models to complex accident scenarios.

Details

Career Level: *Undergraduate*
Unit Level: *Level 3*
Credit Points: *6*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites

AINV12002 Accident Phenomenology and 48 units of credit
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 - 2022

- 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. **Group Discussion**
Weighting: 10%
2. **Written Assessment**
Weighting: 50%
3. **Written Assessment**
Weighting: 40%

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 Student feedback

Feedback

Clarity and explanation of theories and course content was positively reviewed.

Recommendation

Ensure many relevant real world case studies are discussed and interactive tutorials are continued.

Unit Learning Outcomes

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

1. Evaluate the benefits, features and application of accident analysis models.
2. Reconstruct accident causation sequences using contemporary methods of reconstruction and simulation.
3. Employ effective communication strategies appropriate to accident analysis.
4. Demonstrate reflective skills appropriate to the development at an advanced level.

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
1 - Group Discussion - 10%			•	•
2 - Written Assessment - 50%	•		•	•
3 - Written Assessment - 40%		•	•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes			
	1	2	3	4
1 - Communication			•	
2 - Problem Solving	•	•		
3 - Critical Thinking	•	•	•	•
4 - Information Literacy	•	•	•	

Graduate Attributes	Learning Outcomes			
	1	2	3	4
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 - Group Discussion - 10%	•		•	•		•	•	•		
2 - Written Assessment - 50%	•	•	•	•		•	•	•		
3 - Written Assessment - 40%	•	•	•	•		•	•	•		

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
Kevin Perry Unit Coordinator
k.perry@cqu.edu.au

Schedule

Week 1 - 07 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Lecture: Introduction and unit overview	Any applicable readings will be available in Moodle	No tutorial

Week 2 - 14 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Lecture: Models and tools	Any applicable readings will be available in Moodle	No tutorial

Week 3 - 21 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Lecture: Understanding the importance of timelines and introduction to event trees	Any applicable readings will be available in Moodle	Tutorial: TBA

Week 4 - 28 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Lecture: Event tree layout	Any applicable readings will be available in Moodle	Tutorial: TBA

Week 5 - 04 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic
		Tutorial: TBA
Lecture: Further developing an event tree	Any applicable readings will be available in Moodle	**Investigating the link between theoretical models and accident analysis tools** Due: Week 5 Wednesday (6 Apr 2022) 5:00 pm AEST

Vacation Week - 11 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 18 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic
Lecture: Reviewing accident simulation tools	Any applicable readings will be available in Moodle	Tutorial: TBA

Week 7 - 25 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic
Lecture: Testing event tree logic	Any applicable readings will be available in Moodle	Tutorial: TBA

Week 8 - 02 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
		Tutorial: TBA
Lecture: Informing an event tree using analysis - using accident analysis tools	Any applicable readings will be available in Moodle	**Group discussion - the value of accident simulations** Due: Week 8 Wednesday (4 May 2022) 5:00 pm AEST

Week 9 - 09 May 2022		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Lecture: Creating a narrative of the event tree using supporting analysis	Any applicable readings will be available in Moodle	Tutorial: TBA

Week 10 - 16 May 2022		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Lecture: Other analysis tools - MORT and Fault Tree Analysis (FTA)	Any applicable readings will be available in Moodle	No tutorial

Week 11 - 23 May 2022		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Independent study		No tutorial

Week 12 - 30 May 2022		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
Independent study		No tutorial

Review/Exam Week - 06 Jun 2022		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
		Accident Analysis Report Due: Review/Exam Week Wednesday (8 June 2022) 5:00 pm AEST

Exam Week - 13 Jun 2022		
Module/Topic	**Chapter**	**Events and Submissions/Topic**

Assessment Tasks

1 Investigating the link between theoretical models and accident analysis tools

Assessment Type
Group Discussion

Task Description
This assignment draws on your learnings from AINV12002 Accident Phenomenology. Each accident analysis tool isderived from one of the theoretical perspectives (models) of how accidents occur. This assignment explores the link between the theoretical models and accident analysis tools to help us understand how any limitation of the lens of the theoretical model might also translate as a limitation to the usefulness of the accident analysis tool.
You are required to:
1. Choose three accident analysis tools highlighted on the list provided in Moodle
2. For each tool, explain what theoretical model/s might underpin it and why you think this is the case
3. For each tool, explain the strengths and weaknesses that you are able to anticipate using the structure of the model as the basis of your discussion
4. Reflect on your learning about the link between the theoretical models and accident analysis tools and how that learning will inform your use of accident analysis tools

Your assessment should be around 3000 words, comprising approximately 750 - 1000 words per

tool and 300 - 350 for reflection, and be supported by relevant citations (minimum of 12) from the literature.

Your paper MUST be written in the third person.

Assessment Due Date
Week 5 Wednesday (6 Apr 2022) 5:00 pm AEST

Return Date to Students

Two weeks following submission

Weighting
10%

Assessment Criteria
1. For each tool, there is an explanation of what theoretical model/s might underpin it and why this is the case.
2. For each tool, the strengths and weaknesses able to be anticipated using the structure of the tool, are explained.
3. Reflection on the learnings about the link between the theoretical models and accident analysis tools and how that learning informs the use of accident analysis tools, has been explained.
4. Paragraph and sentence construction, spelling, language and grammar use in the assignment
5. Referencing - includes the provision of a referencing 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

assessmentOutcome

- Employ effective communication strategies appropriate to accident analysis.
- Demonstrate reflective skills appropriate to the development at an advanced level.

assessmentGradAttribute

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

2 Group discussion - the value of accident simulations

Assessment Type
Written Assessment

Task Description
This assessment task has two parts.

Part A

Utilising a web-based search, you are required to find two accident simulation or reconstruction videos. You will then prepare a mindmap of the two simulations you have chosen, commenting on the tools used to create the simulation, the strengths and weaknesses of the simulation, and the overall usefulness of the simulation with respect to the credibility and knowledge base of the author of the simulation.
Your choice of reconstructions must use different simulation software. For example, you cannot choose two reconstructions that both use PC Crash.
Your post must include the video links of the simulations or reconstructions that you have

chosen.
To post your response simply respond to the "Post your response here" located in Group Discussion under the Assessment Block.
You will be able to see what your peers have posted only after you have posted your own submission.

Part B

Comment on the mindmaps of two of your peers with constructive suggestions on how their mindmaps might be improved. Your comments should be limited to no more than 500 words. Your mindmap and comments to peers response will be graded online and rated out of five in accordance with the assessment criteria.

Assessment Due Date
Week 8 Wednesday (4 May 2022) 5:00 pm AEST

Return Date to Students

Two weeks following closing of the forum

Weighting
50%

Minimum mark or grade
Students must attempt the group discussion and obtain an aggregate score of 50% for the unit overall.

Assessment Criteria
1. Tools used to create the simulations have been identified
2. Strengths and weaknesses have been identified
3. Usefulness of the simulation based on author credibility and knowledge base has been included
4. Video links included
5. Constructive comments to peers have been posted

Referencing Style

- Harvard (author-date)

Submission
Online

Submission Instructions
Post in the relevant area of Moodle

assessmentOutcome

- Evaluate the benefits, features and application of accident analysis models.
- Employ effective communication strategies appropriate to accident analysis.
- Demonstrate reflective skills appropriate to the development at an advanced level.

assessmentGradAttribute

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

3 Accident Analysis Report

Assessment Type
Written Assessment

Task Description
The aim of this assessment task is for students to develop an evidence-informed timeline and an

event tree that informs understanding of the sequence of events, causation sequences and outcomes of an accident. The timeline and the event tree are then to be incorporated in a written report which describes the event, the context of the event, and a causation narrative of the analysis.

Assessment Task

In this assessment task you must analyse an accident from a list of case studies provided in Moodle, and prepare:
An evidence-informed Timeline to explain the sequence of events that led to the accident
An Event Tree to explain all the causal factor sequences and outcomes of the accident
A report, incorporating your completed timeline and event tree, describing your analysis and findings.

Your event tree should involve at least six (6) lines of enquiry (People, Environment, Equipment, Procedures, Organisation, and one other line of enquiry)
There is no minimum or maximum word limit given the inclusion of a timeline and event tree, however narratives should be concise. You must include relevant citations from the literature as appropriate.

Your report MUST be writtten in the third person.

Assessment Due Date
Review/Exam Week Wednesday (8 June 2022) 5:00 pm AEST

Return Date to Students

Two weeks following submission

Weighting
40%

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

Assessment Criteria

1. Completed timeline based on the events of the accident is included in the report
2. Completed event tree that details the causation sequences is included in the report
3. A detailed report that provides a narrative of the accident using the timeline and event tree
4. Paragraph and sentence construction, spelling, language and grammar used in the report
5. Referencing—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 or report

Referencing Style

- Harvard (author-date)

Submission
Online

assessmentOutcome

- Reconstruct accident causation sequences using contemporary methods of reconstruction and simulation.
- Employ effective communication strategies appropriate to accident analysis.
- Demonstrate reflective skills appropriate to the development at an advanced level.

assessmentGradAttribute

- 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