



AINV20007 Investigation Principles and Analysis

Term 2 - 2018

Profile information current as at 19/08/2022 07:15 pm

All details in this unit profile for AINV20007 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

You will develop expertise in the investigation and analysis of the practical aspects of contemporary accident investigations. In addition, you will attend a compulsory residential school, which will consolidate and further develop your practical accident investigation and analysis skills to intermediate level. You will plan and prepare for an investigation, manage safety at the accident scene, lead an accident team, photograph the accident scene and the collection of evidence, interview a witness, map a scene, collect and preserve evidence. Subsequent to the residential school, you will also gain an in-depth understanding of the characteristics, strengths, weaknesses and effective application of key accident analysis tools and causation logic diagrams and effective media relations.

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 2 - 2018

- Mixed Mode

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).

Residential Schools

This unit has a Compulsory Residential School for distance mode students and the details are:

Click here to see your [Residential School Timetable](#).

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: Pass/Fail

2. **Portfolio**

Weighting: 50%

3. **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 Have Your Say

Feedback

A unit that has a practical application. Both lecturers were very considerate of work/other issues that arose during the course, that is certainly a big plus for a post-grad course

Recommendation

Ensure that the practical component is maintained and that the empathy for outside time pressures is maintained

Feedback from Have Your Say

Feedback

Consideration may be given to keeping a consistent lecture delivery method between lectures. For example, either a 2 hour lecture or a 1 hour lecture plus a 1 hour tutorial. This will enable a routine to be developed, and save surprises.

Recommendation

Have a more delineating process in regards to the material delivered for the two main areas of this unit. (Investigation Principles and the Analysis components)

Unit Learning Outcomes

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

1. Explain the application of international, national and State laws related to accident investigation
2. Evaluate methods of planning, preparing for and managing complex accident investigations
3. Collect and evaluate evidence
4. Evaluate and apply accident analysis models
5. Reconstruct accident causation sequences using contemporary methods of reconstruction and simulation
6. Evaluate methods for managing the media regarding their reporting of accidents
7. Recognise the influence of legal professional privilege on the conduct of investigations.

Alignment of Learning Outcomes, Assessment and Graduate Attributes



Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes						
	1	2	3	4	5	6	7
1 - Group Discussion - 0%	•					•	•
2 - Portfolio - 50%		•	•	•	•		
3 - Written Assessment - 50%		•	•	•	•		

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes						
	1	2	3	4	5	6	7
1 - Knowledge	○	○	○	○	○		○
2 - Communication	○	○				○	
3 - Cognitive, technical and creative skills	○	○	○	○	○	○	○
4 - Research	○	○		○	○		
5 - Self-management		○					
6 - Ethical and Professional Responsibility		○	○			○	○
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 - 0%	○	○	○	○	○	○	○	
2 - Portfolio - 50%	○	○	○	○	○	○		
3 - 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

Kevin Perry Unit Coordinator
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Schedule

Week 1 - 09 Jul 2018

Module/Topic	Chapter	Events and Submissions/Topic
Introduction Laws relating to investigation practice OHS and risk assessment		Lecture/Tutorial

Week 2 - 16 Jul 2018

Module/Topic	Chapter	Events and Submissions/Topic
Recorded lecture: Planning and Preparing for an investigation Stakeholders, Media & Nosey Parkers	Required readings: Rossmo 2011, Criminal Investigative Failures: Avoiding the Pitfalls MAIIF 2012, The Investigator, The Investigative Team and Teamwork, Marine Accident Investigator International Forum NTSB 2002, Aviation Investigation Manual, Major Team Investigations, National Transportation Safety Board	Zoom tutorial - Applying the lecture material in context of investigation practice.

Week 3 - 23 Jul 2018

Module/Topic	Chapter	Events and Submissions/Topic
Recorded lecture: The accident scene Gathering and preserving your evidence	Required readings: Smith, H. Ward. (1957) Physical Evidence in the Investigation of Traffic Accident Dell, W. (2016) Accident Forensics Evidence Study Guide Hughes, B (2009) Accident Investigation: Evidence Preservation Davis, Charles A. (1959) Notes on physical evidence in pedestrian hit and run accidents. Rail Industry Safety and Standards Board, Code of Practice, Rail Safety Investigations Vol 2.0 2014 pp. 42 - 53	Zoom tutorial - Applying the lecture material in context of investigation practice Group Discussion 1 Due 23 July 2018 0900 (AEST)

Week 4 - 30 Jul 2018

Module/Topic	Chapter	Events and Submissions/Topic
Recorded lecture: Mapping	Required reading: Dell, W. (2016) Accident Forensics Evidence Study Guide	Zoom tutorial - Applying the lecture material in context of investigation practice

Week 5 - 06 Aug 2018

Module/Topic	Chapter	Events and Submissions/Topic
Recorded lecture: Witness interviewing Legal Professional Privilege (LPP)	Required readings: Study Guide - Witness Interviewing Dell, WR 2006, "The Limitations of Traditional Interview Methods", <i>Safety in Action 2006</i> , Safety Institute of Australia, Melbourne Bennett & Hess (1991), Cognitive Interviewing	Zoom tutorial - Applying the lecture material in context of investigation practice Group Discussion 2 Due Monday 6 August 2018 0900 (AEST) Risk Assessment for Residential School Due Friday 10 August 0900 (AEST)

Residential School - 13 Aug 2018

Module/Topic	Chapter	Events and Submissions/Topic
Residential School		Residential School Activities assessed during Residential School

Week 6 - 20 Aug 2018

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to accident analysis tools		Group Discussion 3 Due Monday 20 August 2018 0900 (AEST)

Week 7 - 27 Aug 2018

Module/Topic	Chapter	Events and Submissions/Topic
Analysing your evidence PEEPO & timelines as starting points for building your event tree.		

Week 8 - 03 Sep 2018

Module/Topic	Chapter	Events and Submissions/Topic
Using other analysis tools (eg.Fishbones, Bowtie, Accimaps, Reasons model ICAM, HAZOP, FRAM and Dow Index) to inform your event tree.		Artifact Consolidation & Reflection Report Due Monday 3 September 2018 0900 (AEST)

Week 9 - 10 Sep 2018

Module/Topic	Chapter	Events and Submissions/Topic
Using other analysis tools (eg.Fishbones, Bowtie, Accimaps, Reasons model, ICAM, HAZOP, FRAM and Dow Index) to inform your event tree. (continued)		Assessment 3 Part A Due Monday 10 September 2018 0900 (AEST)

Week 10 - 17 Sep 2018

Module/Topic	Chapter	Events and Submissions/Topic
Accident Analysis Tool Using MORT to inform your event tree		

Week 11 - 24 Sep 2018

Module/Topic	Chapter	Events and Submissions/Topic
Accident Analysis Tool Using MORT to inform your event tree (continued)		Assessment 3 Part B Due Friday 28 September 2018 0900 (AEST)

Week 12 - 01 Oct 2018

Module/Topic	Chapter	Events and Submissions/Topic
Analysis Tools - Into the future - SAFE-NET		

Review/Exam Week - 08 Oct 2018

Module/Topic	Chapter	Events and Submissions/Topic
		Assessment 3 Part C Due Friday 12 October 2018 0900 (AEST)
		Accident Analysis Due: Review/Exam Week Monday (8 Oct 2018) 9:00 am AEST

Exam Week - 15 Oct 2018

Module/Topic	Chapter	Events and Submissions/Topic

Assessment Tasks

1 Group Discussion (Pass/Fail)

Assessment Type

Group Discussion

Task Description

Your Unit Coordinator will post three discussion questions on Moodle during the term. For each discussion question, post a thoughtful response and reply constructively to two fellow students' responses.

Clearly state and justify a position, supporting it from appropriately referenced sources.

The questions will relate to:

- the application of international, national and state laws related to accident investigation
- methods for managing the media regarding the reporting of accidents
- the influence of legal professional privilege on the conduct of investigations

You will not be able to see your peers' responses until you have posted your response.

Approximately 500 words

Assessment Due Date

As per the study schedule

Return Date to Students

Two weeks after the submission date

Weighting

Pass/Fail

Minimum mark or grade

Students must pass all three discussion questions to pass this assessment.

Assessment Criteria

You will be assessed against your ability to:

- Explain the application of international, national and state laws related to accident investigation
- Evaluate methods for managing the media regarding the reporting of accidents
- Recognise the influence of legal professional privilege on the conduct of investigations
- Respectfully and constructively respond to your peers

Referencing Style

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

Submission

Online

Submission Instructions

Post your submission and responses in the assessment area in Moodle

Learning Outcomes Assessed

- Explain the application of international, national and State laws related to accident investigation
- Evaluate methods for managing the media regarding their reporting of accidents
- Recognise the influence of legal professional privilege on the conduct of investigations.

Graduate Attributes

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

2 Crash Lab Activities & Portfolio

Assessment Type

Portfolio

Task Description

Residential School Activities

Part A: Preparedness (5%)

This assessment is designed to ensure that you are well prepared for your practicum at the crash lab. This assessment requires you to undertake a series of activities that will help you maximise your preparedness to be successful.

In order to achieve this you will need to:

- Review relevant literature (textbooks, websites, templates etc) to identify suitable literature, document templates and tools to support your investigation activities at the crash lab
- Review your learning from all previous AINV units
- Participate in the unit lectures, or watch the recordings in Moodle, each week in the lead up to the residential school
- Prepare your crash kit, including all document templates and copies, to bring to the residential school. The minimum requirements for your crash kit will be discussed during the lectures and in Moodle. Your crash kit will be assessed on the first day of the residential school (3%).
- Complete a risk assessment of the hazards, risks and issues you might expect to encounter at an accident scene. As a minimum, you should assess the hazards you might expect to encounter at a two car collision on a suburban road (2%). **NOTE: (The risk assessment needs to be submitted the Friday prior to the first day of residential school - 10 August 2018)**

Part B: Scene Management and Collection (20%)

During the residential school activities you will be working in teams. Each student will have the opportunity to collect and document physical evidence, take photographs of an accident scene, map an accident scene, interview witnesses and lead an investigation team.

Students will update and add to their portfolios during the scheduled activities in the Crash Lab. These will include:

- Contemporaneous notes
- Accident scene sketches
- Evidence and photograph logs
- Continuity Records
- Photographs of the scene
- Witness statements

Before the end of the residential school, your portfolio will be assessed so that you can demonstrate your understanding of the material you have collected. Your team leadership, team participation and witness interview technique will also be assessed during the activities at the residential school.

Grades will be allocated for the following:

1. Leadership and scene management - 5%
2. Witness interviews - 5%
3. End of residential school portfolio (your sketch map, photographs and logs created for the scene you managed) - 5%

Note: You will be required to share your portfolio items you created at the residential school with other members of your investigation team, so that your team members can complete their own practicum reports. Please make sure you bring a large capacity USB stick to the res school so that you can easily share files with your peers.

Please note: For members of your investigation teams to successfully finalise their portfolio items you will need to share the artefacts that you collected or created during the investigation of the accidents scenes. Failure to provide this information to your investigation team members in the period specified by your lecturers, will result in an automatic fail of this assignment.

Part C: Presentation (5%)

During the residential school you will develop and present a 15 minute talk, with supporting visual media on a topic to be advised during residential school. The instructions for this presentation will be provided on Day 1 of residential school. You will submit the visual media via Moodle by 0900 hours on the Monday after your residential school.

Part D: Professionalism: (Pass/Fail)

Throughout the residential school you will be assessed on your ability to apply professional approaches to all activities. There is no submission required for this part.

Part E: Artefact consolidation & reflection (25%)

Following the residential school you are required to prepare and submit a complete set of consolidated evidence artefacts and reflection.

Practicum work conducted in the crash lab will emulate the evidence gathering in an accident investigation in the field and you will apply your knowledge of investigation methods. Following the residential school, you will compile and submit a report of the accident you investigated which includes (20%):

- Formatting for a professional report
- Introduction
- Methodology
- Description of the scene
- Your finalised portfolio items as attachments to your report.

Your submission should also include a self-appraisal against the points below as a reflection.(5%)

- Your performance in the portfolio and address any weaknesses
- Your practicum assessment outcomes and reflect on potential remedial actions
- Your preparation and capacity for leadership of investigation teams
- Your professional practice confidence and competence during the residential school activities
- The quality of your finalised portfolio items and investigation artefacts (forms etc).

Expectations with regard to this assessment will be discussed thoroughly prior to and during the residential school.

Assessment Due Date

Risk Assessment to be submitted 10 August 2018. Portfolios will be assessed onsite at the crash lab. Presentation material to be submitted the Monday following the residential school. Assessment 2 Part E Due Monday 3 September 2018 0900 (AEST) Further details of the assessment arrangements will be included in Moodle and at the commencement of the residential school.

Return Date to Students

Feedback will be provided on portfolio work before students leave the residential school. Artefact Consolidation and Reflection will be returned 3 weeks following submission date.

Weighting

50%

Minimum mark or grade

To pass this assessment, students must be graded Pass in all core skills: scene management, photography, mapping, witness interviewing and professionalism during the Residential School. Students must pass this assessment to pass this unit.

Assessment Criteria

Residential School activities

PART A: - Preparedness Students are required to attend the first morning of the residential school with a complete crash kit as detailed during the lectures. Failure to provide a complete crash kit will result in the student being excluded from the practical activities of the residential school until the shortcomings are corrected.

PART B: - Scene Management & Evidence Collection

Accident Scenario - Team Leader Assessment

Collected evidence - has collected, engaged with and can verbally explain the photos, sketch map and log sheets done by their team. Has witness statements to appropriate standard and has interviewed a number of witnesses. Has sufficient materials and understanding to be able to prepare a report. Recognises weaknesses in collected materials and has a plan to address them

PART C: - Presentation

Presentation - Presentation style, formatting & content will be marked against a matrix provided to the students prior to the residential school

PART D:- Professionalism · Throughout the residential school, students are expected to apply professional approaches to all activities.- Pass/Fail

PART E:- Artefact consolidation and reflection · Your submission will be assessed on the following criteria:

Artefact consolidation (20%)

- Formatting for a professional report
- Introduction
- Methodology
- Description of the scene
- Your finalised portfolio items as attachments to your report.

Reflection (5%)

Your submission will be assessed on your self-appraisal against the points below as a reflection.

- Your performance in the portfolio and address any weaknesses
- Your practicum assessment outcomes and reflect on potential remedial actions
- Your preparation and capacity for leadership of investigation teams
- Your professional practice confidence and competence during the residential school activities
- The quality of your finalised portfolio items and investigation artefacts (forms etc).

Please note: For members of your investigation teams to successfully finalise their portfolio items you will need to share the artefacts that you collected or created during the investigation of the accident scenes. Failure to provide this information to your investigation team members in the period specified by your lecturers, will result in an automatic fail of this assignment.

Referencing Style

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

Submission

Offline Online

Submission Instructions

Presentation slides shall be submitted via Moodle immediately after the Residential School. These shall be in Powerpoint or .pdf format. Artefact Consolidation & Reflection submission are to be uploaded into Moodle.

Learning Outcomes Assessed

- Evaluate methods of planning, preparing for and managing complex accident investigations
- Collect and evaluate evidence
- Evaluate and apply accident analysis models
- Reconstruct accident causation sequences using contemporary methods of reconstruction and simulation

Graduate Attributes

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

3 Accident Analysis

Assessment Type

Written Assessment

Task Description

Task Description

Select an accident from the following list and review literature available in the public domain, including regulatory reports :

- Maritime Domain - Herald of Free Enterprise or Exxon Valdez
- Industrial Domain - Bhopal or Chernobyl
- Rail Domain - Waterfall or Granville
- Aviation Domain - QF32 A380 engine failure or Concorde
- Road Domain - Kempsey bus crash or Mont Blanc

Part A (20%)

Using your case study and information available in the public domain to develop a Timeline, PEEPO and Event Tree for that case study.

You will be required to submit:

- Completed PEEPO, Timeline and Event Tree for your chosen case study (Due: Monday Week 9).

Part B (15%)

Use each of the following accident analysis tools to further analyse the causation of your case study accident, with the view to using the tools to cast a new lens on your initial analysis to further enhance your event tree from Part A:

- Acci-Map
- Fishbone
- Bow Tie
- MORT

You will be required to submit:

- Your enhanced event tree.
- A summary of the changes made to your event tree and how the tools assisted in highlighting those new understandings (max. 1500 words).

Part C (15%)

Write a narrative describing the event tree causation sequences.

You will be required to submit:

- Your narrative
- Your final event tree (Incorporating any feedback from your lecturer and Part B activities).

Assessment Due Date

Review/Exam Week Monday (8 Oct 2018) 9:00 am AEST

As per schedule

Return Date to Students

Within 2 weeks of submission date

Weighting

50%

Minimum mark or grade

Students must pass this assessment to pass the unit.

Assessment Criteria

Part A: (20%)

You will be assessed on your ability and thoroughness of the populating of the timeline, PEEPO and event tree.

Part B: (15%)

You will be assessed on:

- Evidence that the accident analysis tools have been employed to enhance the event tree submitted in Part A
- Your enhanced event tree showing further lines of inquiry
- Your summary of the changes made and how the accident analysis tools assisted in making those changes.

Part C: (15%)

You will be assessed on:

- your narrative will clearly and distinctly describes the lines of inquiry depicted on your event tree.
- your completed event tree incorporating feedback from your lecturer from part B.

Referencing Style

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

Submission

Online

Submission Instructions

Via Moodle. All files are to be in .pdf format. Students should ensure that all diagrams, when enlarged are legible.

Learning Outcomes Assessed

- Evaluate methods of planning, preparing for and managing complex accident investigations
- Collect and evaluate evidence
- Evaluate and apply accident analysis models

- Reconstruct accident causation sequences using contemporary methods of reconstruction and simulation

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