



# PMSC29004 Retrieval Medicine

## Term 1 - 2024

Profile information current as at 05/05/2024 12:24 am

All details in this unit profile for PMSC29004 have been officially approved by CQUUniversity 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 offer you a comprehensive introduction to retrieval medicine relevant to critical care paramedic practice. You will explore the basic principles of aviation as they relate to the clinical retrieval of unwell patients. You will gain an understanding of the safety considerations associated with both rotary and fixed-wing retrieval platforms. You will evaluate the impact of flight on normal and altered physiology to enable you to optimise care in this environment. Furthermore, this unit will assist you to distinguish the non-technical skills used to complement technical skills utilised in aeromedical retrieval, as well as develop knowledge surrounding the identification and mitigation of retrieval challenges.

#### Details

Career Level: *Postgraduate*

Unit Level: *Level 9*

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 Postgraduate 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. **Case Study**

Weighting: 30%

2. **Case Study**

Weighting: 30%

3. **Essay**

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 UC reflection

##### Feedback

Subject matter experts are involved in the delivery of the unit.

##### Recommendation

These experts bring their extensive knowledge and experience, enriching the learning experience. Their expertise allows for in-depth discussions, practical examples, and real-world applications of the subject matter. As such, we will continue to involve subject matter experts in future offerings of this unit.

## Unit Learning Outcomes

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

1. Explain the basic principles of aviation as they relate to the clinical retrieval of unwell patients
2. Identify and discuss safety considerations associated with both rotary and fixed-wing retrieval platforms
3. Evaluate the impact of flight on normal and altered physiology
4. Distinguish the non-technical skills relevant to aeromedical retrieval that are used to complement technical skills
5. Identify and mitigate retrieval challenges.

n/a

## 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 - Case Study - 30%	•		•		
2 - Case Study - 30%		•			•
3 - Essay - 40%				•	

### Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
1 - Knowledge	○	○	○	○	○
2 - Communication	○	○		○	

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
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 - Case Study - 30%	○	○	○	○		○		
2 - Case Study - 30%	○	○	○	○	○	○	○	
3 - Essay - 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

**Kirsty Shearer** Unit Coordinator  
[k.shearer@cqu.edu.au](mailto:k.shearer@cqu.edu.au)

## Schedule

### Week 1 - 04 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
<b>Introduction to aeromedical retrieval.</b> Retrieval systems. Retrieval platforms. Crew composition.		

### Week 2 - 11 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
<b>Flight physiology.</b> Gas laws.		

### Week 3 - 18 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
<b>Stressors of flight.</b> Internal environmental stressors. External environmental stressors.		

### Week 4 - 25 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
<b>Introduction to flight regulations.</b> Overview of Civil Aviation Safety Authority (CASA) regulations.		

### Week 5 - 01 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
<b>Preparation for flight.</b> Patient preparation. Pre-flight considerations. Ventilation.		<b>Case study</b> Due: Week 5 Friday (5 Apr 2024) 11:45 pm AEST

### Vacation Week - 08 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
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### Week 6 - 15 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
<b>Aircraft safety and winch retrieval.</b>		

### Week 7 - 22 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
<b>Special considerations 1.</b> Acute behavioural disturbance retrieval. Bariatric retrieval. Biohazard/COVID-19 retrieval.		

## Week 8 - 29 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
<b>Special considerations 2.</b> Obstetric retrieval. Neonatal and paediatric retrieval.		<b>Case study</b> Due: Week 8 Friday (3 May 2024) 11:45 pm AEST

## Week 9 - 06 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
<b>Human factors.</b>		

## Week 10 - 13 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
<b>Non-technical skills (NTS).</b>		

## Week 11 - 20 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
<b>Non-technical skills (NTS).</b>		

## Week 12 - 27 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
<b>Case studies in retrieval medicine.</b>		

## Review/Exam Week - 03 Jun 2024

Module/Topic	Chapter	Events and Submissions/Topic
		<b>Essay</b> Due: Review/Exam Week Wednesday (5 June 2024) 11:45 pm AEST

## Exam Week - 10 Jun 2024

Module/Topic	Chapter	Events and Submissions/Topic
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## Assessment Tasks

### 1 Case study

#### Assessment Type

Case Study

#### Task Description

Following a fall from a ladder at a height of approximately 6 metres, a 48-year-old male patient requires retrieval from a rural hospital. Fixed-wing and rotary aircraft are available. The total distance to and from the retrieval site is 400km. The physical examination reveals:

- A cerebral contusion.
- Spinal injuries.
- Fractured ribs on the left lateral aspect of the chest.

The latest set of patient clinical observations are:

- GCS 12 (E3 V4 M5).
- Heart rate 58 bpm.
- BP 148/80 mmHg.
- BGL 5 mmol/L.
- The patient is breathing spontaneously at 12 – 18 breaths per minute.
- Spo2 98% on Fio2 100% non-rebreather mask.
- EtCo2 44 mmHg.

You must address the following based on best international practices and contemporary evidence in retrieval medicine:

1. Critically evaluate the key flight physiology that relates to the hypothetical patient.
2. Critically discuss management considerations pertinent to the provided case, including predicted clinical progression and mitigation of clinical challenges, as well as equipment limitations and mitigation of equipment challenges.
3. Based on your analysis, determine and rationalise the optimal transport platform for the provided case.

**Assessment Due Date**

Week 5 Friday (5 Apr 2024) 11:45 pm AEST

**Return Date to Students**

Week 7 Friday (26 Apr 2024)

**Weighting**

30%

**Minimum mark or grade**

50%

**Assessment Criteria**

The expected word count for your case study is 2000 words, excluding references. You will be assessed in accordance with the rubric provided on the unit Moodle page.

Criteria include:

Overall presentation

- Organisation of your case study.
- Writing mechanics.
- Word count.
- In-text referencing.
- Reference list.

Content

- Introduction to the case.
- Critical evaluation of key flight physiology.
- Critical discussion of management considerations.
- Rationalisation of optimal transport platform.
- Summary of the case.

This case study is worth 30% of the marks for this unit.

**Referencing Style**

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

**Submission**

Online

**Submission Instructions**

Please upload your document/s as a Word file (.doc or .docx).

**Learning Outcomes Assessed**

- Explain the basic principles of aviation as they relate to the clinical retrieval of unwell patients
- Evaluate the impact of flight on normal and altered physiology

**Graduate Attributes**

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

## 2 Case study

**Assessment Type**

Case Study

**Task Description**

A 23-year-old female has been hiking up Mt Larcom, a heavily forested and steep National Park in Queensland. When

she began the hike, she had some mild hay fever symptoms that were not concerning. Five hours later, upon reaching the summit, her symptoms developed into severe fatigue, shortness of breath, and confusion. The caller stated that she would not make the 3-hour descent. Additionally, the patient has been notified that her roommate has tested positive for COVID-19.

You have the following relevant operational information:

- Aircraft: AW139 Helicopter (winch equipped).
- Ground resources: SES, Police, and Ambulance are currently hiking in but are not expected to reach the patient until after the last light.
- Other: Local time is 1630hrs, last light is 1759hrs, estimated winch height is 150ft, and severe weather is predicted from 2200hrs.

Your response to this assessment requires you to consider a range of operational retrieval challenges. You must address the following based on best international practices and contemporary evidence in retrieval medicine:

1. During cruise flight to the scene, you discuss possible retrieval operation options for patient access and egress with the team. Given the available information, evaluate the options available and choose the most appropriate for the situation. Discuss your analysis of and how you would mitigate against the associated risks of your selected retrieval plan.
2. You have been winched into the scene with a doctor. There are no other ground personnel present. What is your preferred equipment to recover the patient, and why?
3. Examine the safety considerations associated with this retrieval operation, regardless of the COVID-19 implication. Provide an appropriate patient safety brief based on the method of access and egress.
4. Provide a treatment plan for your patient, considering the unique challenges of a contagious pathogen transport scenario.

### **Assessment Due Date**

Week 8 Friday (3 May 2024) 11:45 pm AEST

### **Return Date to Students**

Week 10 Friday (17 May 2024)

### **Weighting**

30%

### **Minimum mark or grade**

50%

### **Assessment Criteria**

The expected word count for your case study is 2000 words, excluding references. You will be assessed in accordance with the rubric provided on the unit Moodle page.

Criteria include:

#### Overall presentation

- Organisation of your case study.
- Writing mechanics.
- Word count.
- In-text referencing.
- Reference list.

#### Content

- Introduction to the case.
- Discussion of access and egress, with consideration and mitigation of associated risks.
- Critical evaluation of choice of equipment.
- Articulation of safety considerations, including patient safety brief.
- Comprehensive treatment plan nuanced to the retrieval environment.
- Summary of case.

This case study is worth 30% of the marks for this unit.

### **Referencing Style**

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

### **Submission**

Online



## Submission Instructions

Please upload your document/s as a Word file (.doc or .docx).

## Learning Outcomes Assessed

- Identify and discuss safety considerations associated with both rotary and fixed-wing retrieval platforms
- Identify and mitigate retrieval challenges.

## Graduate Attributes

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

## 3 Essay

### Assessment Type

Essay

### Task Description

You are to write an essay investigating and articulating the relevance of non-technical aviation skills for aeromedical retrieval. You must distinguish the non-technical skills relevant to aeromedical retrieval used to complement technical skills and then synthesise an argument for or against their adoption and training by medical transport specialists based on your understanding of the aeromedical retrieval environment.

### Assessment Due Date

Review/Exam Week Wednesday (5 June 2024) 11:45 pm AEST

### Return Date to Students

Wednesday after Exam Week

### Weighting

40%

### Minimum mark or grade

50%

### Assessment Criteria

The expected word count for your essay is 2500 words, excluding references. You will be assessed in accordance with the rubric provided on the unit Moodle page.

Criteria include:

#### Overall presentation

- Organisation of your case study.
- Writing mechanics.
- Word count.
- In-text referencing.
- Reference list.

#### Content

- Introduction.
- Identification and discussion of non-technical skills.
- Critical discussion of the distinction between non-technical and technical skills.
- Argument synthesis.
- Summary/conclusion.

This essay is worth 40% of the marks for this unit.

### Referencing Style

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

### Submission

Online

### **Submission Instructions**

Please upload your document/s as a Word file (.doc or .docx).

### **Learning Outcomes Assessed**

- Distinguish the non-technical skills relevant to aeromedical retrieval that are used to complement technical skills

### **Graduate Attributes**

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

## 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