



# **PMSC12004 *Advanced Electrophysiology and Coronary Care***

## **Term 1 - 2024**

Profile information current as at 29/04/2024 02:15 pm

All details in this unit profile for PMSC12004 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

This unit will enable you to complete a detailed clinical assessment of cardiac patients, focusing on the use of 12-lead electrocardiographs (ECGs) as a diagnostic tool in pre-hospital care. You will study electrophysiology, pharmacology and pathophysiology to form provisional diagnoses, and implement treatment in a range of cardiovascular conditions. Practical coronary care skills such as defibrillation and 12 lead ECG acquisition will be taught in this unit. Problem-based case management and clinical interventions are practiced via simulation during practical sessions. This will allow you to contextualise your knowledge of coronary care in preparation for professional paramedic practice.

### 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

Pre-requisites: PMSC12001 Procedures & Skills in Paramedic Care PMSC11004 Paramedic Medical Emergencies 1 BMSC11011 Human Anatomy and Physiology 2 or BMSC11002 Human Body Systems 2 Please note: Any student who has not successfully completed a PMSC residential school within the preceding 12 months must complete a PMSC12001 Procedures & Skills refresher. This ensures currency with all contemporary skills and procedures in line with industry standards and professional capabilities.

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

- 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 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 Test**

Weighting: 10%

#### 2. **Practical Assessment**

Weighting: 60%

#### 3. **Online Test**

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 SUTE

**Feedback**

The online quiz ECG required scrolling to see and they needed more time to complete the quiz.

**Recommendation**

Re-format online quiz ECGs so the student doesn't need to scroll to see the whole ECG.

#### Feedback from SUTE

**Feedback**

Multiple staff providing lectures was confusing and lacked consistency

**Recommendation**

Some lectures will need to be re done to provide lecturer consistency and limit confusion

#### Feedback from SUTE

**Feedback**

Provide more practices quizzes

**Recommendation**

Add multiple practice quizzes and case studies throughout the weekly content.

#### Feedback from SUTE

**Feedback**

The content was too heavy in the beginning weeks

**Recommendation**

The residential schools will be moved to later in the term which will allow the content to be spread across the term better.

#### Feedback from SUTE

**Feedback**

I strongly recommend that the training ambulance is bought out each week for residential schools as it is a great learning resource.

**Recommendation**

Set the use of the ambulances across the three campuses as a standard scenario format moving forward.

## Unit Learning Outcomes

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

1. Apply evidence-based knowledge of pathophysiology to identify and differentiate between a broad range of cardiovascular conditions
2. Accurately interpret ECGs and diagnose coronary conditions including dysrhythmias and acute coronary syndromes
3. Integrate comprehensive knowledge of current evidence-based practice to articulate and undertake appropriate clinical assessments, skills and interventions in the management of cardiovascular conditions
4. Incorporate the principles of safe, professional, cultural safety and ethical practice as it relates to paramedicine.

**It is a requirement of the Paramedicine Board of Australia that units align with the AHPRA professional capabilities for registered paramedics. These are broken down into five (5) domains. Below aligns the proposed learning outcomes with these domains. In addition, the learning outcomes have also been aligned with the National Safety and Quality Health Service (NSQHS) Standards.**

## Professional Capabilities for a registered Paramedic

The Paramedicine Board of Australia is responsible for assessing, consulting on and setting the standards for paramedics practicing in Australia. These standards and relevant domains are articulated in the *Professional capabilities for registered paramedics* document. The learning outcomes of the unit are matched to the relevant capabilities

Standard/Attribute/Criteria	Learning Outcome
Domain 1: The professional and ethical practitioner 1.1.1, 1.1.3, 1.1.5, 1.1.6, 1.1.9, 1.1.10, 1.1.11, 1.2.1, 1.2.2, 1.2.4, 1.2.5, 1.2.6, 1.3.1, 1.3.2, 1.3.3, 1.4.1, 1.4.2	LO1, LO2, LO3, LO4
Domain 2: The communicator and collaborator 2.1.1, 2.1.2, 2.1.3, 2.1.4, 2.2.1, 2.2.2, 2.2.3, 2.2.4, 2.2.5, 2.2.6	LO1, LO2, LO3, LO4
Domain 3: The evidence-based practitioner 3.1.1, 3.1.2, 3.2.1, 3.2.2, 3.2.3, 3.2.4, 3.2.5, 3.2.5.3.3.1, 3.3.2, 3.3.3, 3.3.4, 3.4.4	LO1, LO2, LO3, LO4
Domain 4: The safety and risk management practitioner 4.1.1, 4.1.2, 4.1.3, 4.2.1, 4.2.2, 4.2.3, 4.2.4, 4.3.1, 4.3.2, 4.3.3, 4.5.2, 4.5.3, 4.6.6, 4.7.2, 4.7.4, 4.7.8	LO1, LO2, LO3, LO4
Domain 5: The paramedicine practitioner 5.1.1, 5.2.1, 5.2.2, 5.2.3, 5.2.4, 5.2.5, 5.3.1, 5.3.2, 5.3.3, 5.3.4, 5.3.5, 5.3.6, 5.4.1, 5.4.2, 5.4.4, 5.4.5, 5.4.6, 5.6.1, 5.6.2, 5.6.3, 5.6.4	LO1, LO2, LO3, LO4

## National Safety and Quality Health Service Standards

The Australian Commission on Safety and Quality in Health Care Standards developed in this unit are:

Standard	Learning Outcomes
Partnering with Consumers	LO2, LO3, LO4
Preventing and Controlling Infections	LO3, LO4
Medication Safety	LO3, LO4
Comprehensive Care	LO1, LO2, LO3, LO4
Communicating for Safety	LO3, LO4
Recognising and Responding to Acute Deterioration	LO3, LO4



## Alignment of Learning Outcomes, Assessment and Graduate Attributes



### Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes			
	1	2	3	4
1 - Online Test - 10%	•	•		
2 - Practical Assessment - 60%		•	•	•
3 - Online Test - 30%	•	•	•	•

### 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	•	•		
5 - Team Work			•	•
6 - Information Technology Competence	•			
7 - Cross Cultural Competence				•
8 - Ethical practice			•	•
9 - Social Innovation				
10 - Aboriginal and Torres Strait Islander Cultures				

## Textbooks and Resources

### Textbooks

PMSC12004

#### Prescribed

#### Huszar's ECG and 12-Lead Interpretation

Edition: 6th (2021)

Authors: Keith Wesley

Elsevier

St Louis , Missouri , USA

ISBN: 9780323711951

Binding: Paperback

#### Additional Textbook Information

6th Edition is the latest, however any edition of this textbook will suffice.

### 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: [American Psychological Association 7th Edition \(APA 7th edition\)](#)

For further information, see the Assessment Tasks.

## Teaching Contacts

**Sarah Lumley** Unit Coordinator

[s.lumley@cqu.edu.au](mailto:s.lumley@cqu.edu.au)

## Schedule

### Week 1- Module 1 - 04 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
Cardiac Anatomy and Physiology review. Electrical Conduction System	Huszar's ECG and 12-Lead Interpretation; Chapter 1 Relevant Queensland Ambulance Service Digital Clinical Practice Manual Clinical Practice Guidelines and Procedure	

### Week 2- Module 1 - 11 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
--------------	---------	------------------------------

ECG Basics.  
12 Lead ECG introduction and acquisition.  
Systematic Approach to Electrocardiograms (ECG) Interpretation.

Huszar's ECG and 12-Lead Interpretation;  
Chapter 2, 3, 4, 12

### Week 3- Module 1 - 18 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
ECG Rhythms: sinus and atrial rhythms, junctional rhythms, ventricular rhythms	Huszar's ECG and 12-Lead Interpretation; Chapter 5, 6, 7, 8	

### Week 4- Module 1 - 25 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
ECG Rhythms: AV blocks, Bundle Branch Blocks, STEMIs	Huszar's ECG and 12-Lead Interpretation; Chapter 9, 13, 15, 16 Textbook of Adult Emergency Medicine Section 5.4 Queensland Ambulance Service Digital Clinical Practice Manual  Clinical Practice Procedure the Valsalva Manoeuver.	

### Week 5 - 01 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
ECG Rhythms: STEMI mimics, complex ECGs	Huszar's ECG and 12-Lead Interpretation; Chapter 14, 15, 16,	

### Vacation Week - 08 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic

### Week 6- Module 2 - 15 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Resuscitation Coronary Artery Disease and ACS Pharmacology: GTN, Aspirin, Amiodarone, Adrenaline	Huszar's ECG and 12-Lead Interpretation; Chapter 17 Relevant Queensland Ambulance Service Digital Clinical Practice Manual Clinical Practice Guidelines and Procedure	Opens: 0900 Monday 15th April Closes: 0900 Monday 22nd April

### Week 7- Module 2 - 22 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
SVT and Valsalva Cardiogenic APO and Heart Failure & CPAP	Huszar's ECG and 12-Lead Interpretation; Chapter 13,16,17. Relevant Queensland Ambulance Service Digital Clinical Practice Manual Clinical Practice Guidelines, Procedures and Pharmacology's	



**Week 8- Module 3 - 29 Apr 2024**

Module/Topic	Chapter	Events and Submissions/Topic
Myocardial Infarction Thrombolysis PCI	Huszar's ECG and 12-Lead Interpretation; Chapter 14, 15, 16, 17 Relevant Queensland Ambulance Service Digital Clinical Practice Manual Clinical Practice Guidelines	

**Week 9- Module 3 - 06 May 2024**

Module/Topic	Chapter	Events and Submissions/Topic
Thrombolysis and pPCI guidelines, referral and consult processes. Thrombolysis and pPCI checklists and associated pharmacology.	Huszar's ECG and 12-Lead Interpretation; Chapter 17 Relevant Queensland Ambulance Service Digital Clinical Practice Manual Clinical Practice Guidelines, Procedures and Pharmacology's	Residential school 1: 7th- 10th May

**Week 10 - 13 May 2024**

Module/Topic	Chapter	Events and Submissions/Topic
	Relevant Queensland Ambulance Service Digital Clinical Practice Manual Clinical Practice Guidelines, Procedures and Pharmacology's	Residential school 2: 15th- 18th May

**Week 11 - 20 May 2024**

Module/Topic	Chapter	Events and Submissions/Topic
Critical thinking Complex case studies	Relevant Queensland Ambulance Service Digital Clinical Practice Manual Clinical Practice Guidelines, Procedures and Pharmacology's	

**Week 12 - 27 May 2024**

Module/Topic	Chapter	Events and Submissions/Topic
Review Content from semester		

**Exam Week - 03 Jun 2024**

Module/Topic	Chapter	Events and Submissions/Topic
		Opens: 0900 Monday 3rd June Closes: 0900 Monday 10th June

## Assessment Tasks

### 1 Online Test

**Assessment Type**

Online Test

**Task Description**

You will be required to complete an online test. This test will demonstrate your knowledge to interpret and correctly diagnose ECGs and will test your ability to apply knowledge of anatomy and physiology of the cardiovascular system and other material covered in the first five weeks.

Date: Online test will open on the **15th of April at 0900** and will close at **0900 on the 22nd of April.**

**Assessment Due Date**

22nd April 0900

**Return Date to Students**

Results from this assessment will be made available by no later than 13th May

**Weighting**

10%

**Assessment Criteria**

- 60 minutes for online test
- Please ensure that you read each question carefully.
- There will be a combination of multiple choice and ECG interpretation questions.
- You will only be given one attempt for the test.
- Use of AI platforms, search engines, textbooks, etc. during the exam is considered cheating and will be managed accordingly.
- When the due date expires, any open attempts are automatically submitted; you must therefore start the quiz before that deadline, or you will not receive your full time period.
- This is an individual assessment with no collaboration allowed.
- For this assessment task no late submissions will be accepted and the test will close and become unavailable after the due date and time.
- In the absence of an approved extension, there will be no opportunity to complete the test after this date. If you experience a technical issue you must notify the Unit Coordinators immediately.

**Referencing Style**

- [American Psychological Association 7th Edition \(APA 7th edition\)](#)

**Submission**

Online

**Learning Outcomes Assessed**

- Apply evidence-based knowledge of pathophysiology to identify and differentiate between a broad range of cardiovascular conditions
- Accurately interpret ECGs and diagnose coronary conditions including dysrhythmias and acute coronary syndromes

## 2 Practical Assessment

**Assessment Type**

Practical Assessment

**Task Description**

You will be required to attend an assessment day at: your nominated residential school.

Your assessment tasks will consist of two simulation scenarios and an ECG exam.

Simulation 1 will involve a 20 minute scenario of a commonly encountered pre-hospital cardiovascular emergency which will require you to assess and treat the patient according to your learnt practice. -25%

Simulation 2 will involve a 15 minute scenario followed by a 5 minute voice viva specific to the scenario you will undertake. - 25%

The ECG exam will be sat under exam conditions during the residential school and will heavily focus on 12 lead ECG interpretation of common pre-hospital ECGs.- 10%

All assessment tasks align with the learning outcomes for this unit, as described in the Unit Profile.

The Case Management Exercises (CMEs) will take the format of clinical scenarios (whole or in-part) designed to assess your knowledge and understanding of any topic or material covered throughout the unit by means of structured, simulated patient interactions. Furthermore, the CMEs are designed to assess your ability to perform a thorough and accurate patient assessment and use this information to formulate a provisional diagnosis. In combination with your patient assessment and provisional diagnosis, you will be required to implement appropriate and timely clinical interventions, procedures and/or skills commensurate with your current scope of practice. Scene management and effective communication skills, including the ability to deliver a clinical handover to a senior clinician (i.e. CCP/ICP/MICA) or other health care professionals, will also be assessed.

The Viva Voce is a verbal or interview style assessment where you will be required to answer a series of questions to demonstrate your knowledge and understanding of the material covered throughout the unit.

You need to meet a minimum pass mark of 50% (30/60) to pass this assessment overall.

**Assessment Due Date****Return Date to Students**

Results from this assessment will be made available by no later than three weeks after the completion of all the residential schools

**Weighting**

60%

**Assessment Criteria**

- You must achieve a cumulative mark of greater than 50% across the assessment tasks to pass this assessment.
- Multiple scoring tools/rubrics will be utilised, based on the format of the assessment task. The scoring tools/rubrics for each assessment are validated and reliable.
- Assessments will be moderated by the Unit Coordinator and therefore finalisation of grades will not be made available at the completion of your all assessment day/s or residential school until moderation is completed

**Referencing Style**

- [American Psychological Association 7th Edition \(APA 7th edition\)](#)

**Submission**

No submission method provided.

**Learning Outcomes Assessed**

- Accurately interpret ECGs and diagnose coronary conditions including dysrhythmias and acute coronary syndromes
- Integrate comprehensive knowledge of current evidence-based practice to articulate and undertake appropriate clinical assessments, skills and interventions in the management of cardiovascular conditions
- Incorporate the principles of safe, professional, cultural safety and ethical practice as it relates to paramedicine.

### 3 Online Test

**Assessment Type**

Online Test

**Task Description**

You will be required to complete an online test at the completion of the semester. This test will demonstrate your knowledge to interpret and correctly diagnose ECGs and will test your ability to apply knowledge of anatomy and physiology of the cardiovascular system, diagnose and treat patients with commonly encountered cardiovascular conditions and appropriately and demonstrate a solid understanding of the pharmacological agents use to treat cardiovascular emergencies.

Date: Online test will open on the **3rd of June at 0900** and close on the **10th of June at 0900**.

**Assessment Due Date**

Exam Week Monday (10 June 2024) 9:00 am AEST

**Return Date to Students**

Results from this assessment will be made available by no later than 1st July.

**Weighting**

30%

**Assessment Criteria**

- You have 60 minutes for the online test
- Please ensure that you read each question carefully.
- There will be a combination of multiple choice, short answer, case study and ECG interpretation questions.
- You will only be given one attempt for the test.
- When the due date expires, any open attempts are automatically submitted; you must therefore start the quiz before that deadline, or you will not receive your full time period.
- This is an individual assessment with no collaboration allowed.
- Use of AI platforms, search engines, textbooks, etc. during the exam is considered cheating and will be managed accordingly.
- For this assessment task no late submissions will be accepted and the test will close and become unavailable after the due date and time.
- In the absence of an approved extension, there will be no opportunity to complete the test after this date. If you experience a technical issue you must notify the Unit Coordinators immediately.

**Referencing Style**

- [American Psychological Association 7th Edition \(APA 7th edition\)](#)

## Submission

Online

### Learning Outcomes Assessed

- Apply evidence-based knowledge of pathophysiology to identify and differentiate between a broad range of cardiovascular conditions
- Accurately interpret ECGs and diagnose coronary conditions including dysrhythmias and acute coronary syndromes
- Integrate comprehensive knowledge of current evidence-based practice to articulate and undertake appropriate clinical assessments, skills and interventions in the management of cardiovascular conditions
- Incorporate the principles of safe, professional, cultural safety and ethical practice as it relates to paramedicine.

## 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