



# BMSC13008 Advanced Cardiorespiratory Measurement

## Term 2 - 2019

Profile information current as at 04/05/2024 05:06 am

All details in this unit profile for BMSC13008 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

On completion of this unit students should be able to relate cardiorespiratory physiology and pathophysiology to advanced clinical tests of cardiovascular and respiratory function including haemodynamic, electrophysiological and angiographic cardiovascular measurement. Students will gain vital knowledge of various pulmonary function tests including static lung volumes, pulmonary gas exchange, airway resistance, compliance, maximal pressures and blood gas measurements.

### Details

Career Level: *Undergraduate*

Unit Level: *Level 3*

Credit Points: 6

Student Contribution Band: 9

Fraction of Full-Time Student Load: 0.125

### Pre-requisites or Co-requisites

Pre-requisite BMSC12006 Cardiorespiratory Physiology and Measurement

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 - 2019

- Online
- Rockhampton

### 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. **Written Assessment**

Weighting: 60%

#### 2. **Examination**

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 Self-reflection and student evaluation.

**Feedback**

Reassess the prescribed textbook for the cardiac modules.

**Recommendation**

Prescribe a ECG related textbook for the cardiac modules as this has now become a major focus in this unit.

#### Feedback from Self-reflection.

**Feedback**

Introduce weekly face to face activities.

**Recommendation**

Prepare tutorial activities that are face to face and are linked to each module to support students.

#### Feedback from Course Reference Committee.

**Feedback**

Review of curriculum.

**Recommendation**

This unit is one of the capstone units in advanced clinical physiological testing. Industry experts have recommended that a 12 credit point unit replace the current unit based on the amount of learning content within this unit.

## Unit Learning Outcomes

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

1. Describe the underlying physiology requiring clinical cardiorespiratory measurements.
2. Explain the various types of cardiorespiratory measurement according to best practice guidelines.
3. Rationalise the implementation of a particular cardiorespiratory measurement.
4. Interpret the results from cardiorespiratory measurement.
5. Consider the pharmacological implications for cardiorespiratory measurement.

## Alignment of Learning Outcomes, Assessment and Graduate Attributes

 N/A Level	 Introductory Level	 Intermediate Level	 Graduate Level	 Professional Level	 Advanced Level
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### Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
1 - Written Assessment - 60%	•	•	•	•	•
2 - Examination - 40%	•	•	•	•	•

### Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
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					

### Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
1 - Written Assessment - 60%	•	•	•	•				•		
2 - Examination - 40%	•	•	•	•				•		

## Textbooks and Resources

### Textbooks

BMSC13008

#### Prescribed

##### **Ruppel's manual of pulmonary function testing**

10th Edition (2013)

Authors: Carl D Mottram

Elsevier

St Louis , Missouri , USA

ISBN: 9780323085052

Binding: Hardcover

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#### Prescribed

##### **The cardiac catheterization handbook**

5th Edition (2011)

Authors: Morton L Kern

Mosby/Elsevier Saunders

St Louis , Missouri , USA

ISBN: 9780323079020

Binding: Hardcover

[View textbooks at the CQUniversity Bookshop](#)

### 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

**Candice Pullen** Unit Coordinator

[c.pullen@cqu.edu.au](mailto:c.pullen@cqu.edu.au)

## Schedule

### Week 1 - 15 Jul 2019

Module/Topic	Chapter	Events and Submissions/Topic
Indications for Pulmonary Function Testing	Mottoram (Chapter 1)	

### Week 2 - 22 Jul 2019

Module/Topic	Chapter	Events and Submissions/Topic
Spirometry and Diffusing Tests	Mottoram (Chapters 2 and 3)	

### Week 3 - 29 Jul 2019

Module/Topic	Chapter	Events and Submissions/Topic
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Lung Volumes and Gas Distribution Tests Ventilation and Ventilatory Control Tests	Mottoram (Chapters 4 and 5)
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#### Week 4 - 05 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic
Blood Gases Paediatric Pulmonary Function Tests	Mottoram (Chapters 6 and 8)	

#### Week 5 - 12 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic
Cardiopulmonary Exercise Testing Bronchoprovocation Testing	Mottoram (Chapters 7, 9 and 10)	

#### Vacation Week - 19 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic
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#### Week 6 - 26 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic
Pulmonary Function Testing Equipment and Quality Assurance	Mottoram (Chapters 11 and 12)	

#### Week 7 - 02 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
Electrocardiogram part 1	Kern (Chapter 3, Section II)	

#### Week 8 - 09 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
Electrocardiogram part 2	Kern (Chapter 3, Section II)	

#### Week 9 - 16 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
Electrocardiogram part 3	Kern (Chapter 3, Section II)	

#### Week 10 - 23 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
Cardiac Pharmacology	Moodle resource	<b>Written Assessment</b> Due: Week 10 Monday (23 Sept 2019) 5:00 pm AEST

#### Week 11 - 30 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
Clinical testing - Non-invasive tests, Echocardiography	Moodle resources	

#### Week 12 - 07 Oct 2019

Module/Topic	Chapter	Events and Submissions/Topic
Clinical testing - Electrophysiology and cardiac pacing, Cardiac catheterisation, and Coronary angioplasty and stenting	Kern (Chapter 3,4, 6, and 10)	

#### Review/Exam Week - 14 Oct 2019

Module/Topic	Chapter	Events and Submissions/Topic
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#### Exam Week - 21 Oct 2019

Module/Topic	Chapter	Events and Submissions/Topic
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## Term Specific Information

Pre-recorded lectures will be used for this unit. Lectures will be made available on the Moodle site to students at the start of each week.

Tutorials will be held on the Rockhampton North Campus. Please check your timetable at the start of term for details. Tutorials will be recorded and placed on the Moodle site for students to review. A zoom link will also be set-up for those off-campus students who wish to attend. Students will be expected to review the lecture content before attending the tutorial session for that week.

## Assessment Tasks

### 1 Written Assessment

#### Assessment Type

Written Assessment

#### Task Description

This unit builds upon key concepts presented during foundation and intermediate anatomy and physiology units already completed during your degree (BMSC11001, BMSC11002, BMSC12006). In meeting this objective you will learn about testing procedures which can be performed to assess the functionality of the cardiovascular and respiratory systems. Having an understanding of these testing procedures, the data they generate and the physiological implications of the results are of paramount importance, not only for your career as a medical scientist but also because they are integral diagnostic procedures routinely used in clinical settings. This assessment task will assist you in understanding how pathological conditions of the cardiovascular and respiratory systems impact upon normal physiology and how they present in routine clinical tests.

You will be given case studies and associated data. You will be required to interpret the given information by identifying the pathological condition that is presented and answer a series of questions which relate to each case study. In providing a response you may refer to the textbook, journal articles, and profession body websites.

Further information regarding the assessment item will be available on the unit Moodle page.

#### Assessment Due Date

Week 10 Monday (23 Sept 2019) 5:00 pm AEST

#### Return Date to Students

Week 12 Monday (7 Oct 2019)

#### Weighting

60%

#### Minimum mark or grade

You will be required to achieve a minimum of 50% of the marks available for this assessment task to pass this unit.

#### Assessment Criteria

Performance in this task will be measured using the criteria of accuracy and a question-specific rubric, which will be made available via the Moodle site.

#### Referencing Style

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

#### Submission

Online

#### Submission Instructions

Submit as a Word Document

#### Learning Outcomes Assessed

- Describe the underlying physiology requiring clinical cardiorespiratory measurements.
- Explain the various types of cardiorespiratory measurement according to best practice guidelines.
- Rationalise the implementation of a particular cardiorespiratory measurement.
- Interpret the results from cardiorespiratory measurement.
- Consider the pharmacological implications for cardiorespiratory measurement.

#### Graduate Attributes

- Communication

- Problem Solving
- Critical Thinking
- Information Literacy
- Ethical practice

## Examination

### **Outline**

Complete an invigilated examination.

### **Date**

During the examination period at a CQUniversity examination centre.

### **Weighting**

40%

### **Length**

180 minutes

### **Minimum mark or grade**

You will be required to achieve a minimum of 50% of the marks available for this assessment task to pass this unit.

### **Exam Conditions**

Closed Book.

### **Materials**

Dictionary - non-electronic, concise, direct translation only (dictionary must not contain any notes or comments).



## 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