



# BMSC13019 Advanced Cardiovascular and Respiratory Measurement

## Term 2 - 2022

Profile information current as at 20/04/2024 06:33 pm

All details in this unit profile for BMSC13019 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

Accurate analysis and assessment of cardiovascular and respiratory conditions requires comprehensive knowledge of clinical tests of cardiovascular and respiratory function. In this unit, you will study advanced clinical diagnostic tests of cardiovascular and respiratory function and relate it to pathophysiology of cardiac and respiratory conditions. This will include study of cardiac function tests including haemodynamic, electrophysiological and angiographic cardiovascular measurement; and the study of respiratory function tests including lung volumes and capacities, pulmonary gas exchange, airway resistance, compliance and blood gas measurements. In preparation for clinical placement you will attain knowledge and skills needed to analyse cardiovascular and respiratory conditions within an ethical framework of best practice and patient safety.

### Details

Career Level: *Undergraduate*

Unit Level: *Level 3*

Credit Points: *12*

Student Contribution Band: *8*

Fraction of Full-Time Student Load: *0.25*

### 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 - 2022

- 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 12-credit Undergraduate 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. **Written Assessment**

Weighting: 50%

#### 2. **Online Test**

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 Unit evaluation

**Feedback**

Addition of resources demonstrating the use of pulmonary function testing equipment.

**Recommendation**

Additional resources will be sourced to assist with student understanding.

#### Feedback from Unit evaluation

**Feedback**

Students indicated that the learning resources provided enhanced their understanding

**Recommendation**

Monitor student engagement with the supplied learning resources and update resources as required.

## Unit Learning Outcomes

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

1. Discuss the underlying pathophysiology of cardiovascular and respiratory conditions
2. Discuss the principles and procedures of various cardiovascular and respiratory measurements according to best practice guidelines
3. Justify the implementation of a particular cardiovascular or respiratory measurement
4. Interpret the results of cardiovascular and respiratory measurements
5. Review the pharmacological implications associated with cardiovascular and respiratory measurements
6. Discuss the physiological exercise responses in cardiovascular and respiratory measurement.

## Alignment of Learning Outcomes, Assessment and Graduate Attributes

 N/A Level   Introductory Level   Intermediate Level   Graduate Level   Professional Level   Advanced Level

### Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes					
	1	2	3	4	5	6
<b>1 - Written Assessment - 50%</b>	•	•	•	•	•	•
<b>2 - Online Test - 50%</b>	•	•	•	•	•	•

### Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes					
	1	2	3	4	5	6
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 - 50%	•	•	•	•			•	•		
2 - Online Test - 50%	•	•	•	•			•	•		

## Textbooks and Resources

### Textbooks

BMSC13019

#### Prescribed

##### **ISE Electrocardiography for Health Professionals**

5th Edition (2019)

Authors: Kathryn Booth and Thomas O'Brien

McGraw Hill

New York , America

ISBN: 9781260098310

Binding: Paperback

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#### Prescribed

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

11th Edition (2017)

Authors: Carl D Mottram

Elsevier

St Louis , Missouri , USA

ISBN: 9780323356251

Binding: Hardcover

#### Additional Textbook Information

Both paper and eBook copies can now be purchased at the CQUni Bookshop here:

<http://bookshop.cqu.edu.au> (search on the Unit code).

[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 styles below:**

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

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 - 11 Jul 2022

Module/Topic	Chapter	Events and Submissions/Topic
Indications for pulmonary function testing	Mottram Chapter 1	Tutorial on week 1 content

<b>Week 2 - 18 Jul 2022</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Spirometry Diffusion testing	Mottram Chapters 2 and 3	
<b>Week 3 - 25 Jul 2022</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Lung volumes and gases distribution tests Ventilation and ventilatory control tests	Mottram Chapter 4 and 5	Tutorial on weeks 2 and 3 content
<b>Week 4 - 01 Aug 2022</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Blood gas analysis Paediatric pulmonary function tests	Mottram Chapters 6 and 8	
<b>Week 5 - 08 Aug 2022</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Bronchoprovocation and specialised testing	Mottram Chapters 9 and 10	Tutorial on weeks 4 and 5 content
<b>Vacation Week - 15 Aug 2022</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
<b>Week 6 - 22 Aug 2022</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Pulmonary function testing equipment Quality Assurance	Mottram Chapters 11 and 12	
<b>Week 7 - 29 Aug 2022</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Indications for cardiac testing Cardiac stress testing Ambulatory monitoring	Mottram Chapter 7 Booth and O'Brien Chapters 12 and 13	Tutorial on weeks 6 and 7 content
<b>Week 8 - 05 Sep 2022</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
ECG analysis 1	Booth and O'Brien Chapters 12 and 13	<b>Written Assessment</b> Due: Week 8 Friday (9 Sept 2022) 11:59 pm AEST
<b>Week 9 - 12 Sep 2022</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
ECG analysis 2	Moodle Resource. See eReading list.	Tutorial on weeks 8 and 9 content
<b>Week 10 - 19 Sep 2022</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Invasive testing	Moodle Resource. See eReading list.	
<b>Week 11 - 26 Sep 2022</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Cardiac and respiratory pharmacology	Moodle Resource. See eReading list.	Tutorial on weeks 10 and 11 content
<b>Week 12 - 03 Oct 2022</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Revision		Online interactive oral presentations

**Review/Exam Week - 10 Oct 2022**

Module/Topic	Chapter	Events and Submissions/Topic
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**Exam Week - 17 Oct 2022**

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

Tutorials will be held on fortnightly. All pre-recorded lectures and tutorials will be recorded and placed on Moodle. The tutorials will be student-led and allow students to discuss the unit content covered to date. Please see your timetable for dates and times.

Students will be required to complete an online test in the form of an online oral assessment task during week 12. This online test will include an oral presentation as well as an oral theory test. Students will be required to select a date and time for their interactive oral presentation. Dates and times will be available on Moodle after the Census date.

## Assessment Tasks

### 1 Written Assessment

**Assessment Type**

Written Assessment

**Task Description**

Having an understanding of a wide range of pulmonary function testing procedures, the data they generate and the physiological implications of the results are of paramount importance as they are integral diagnostic procedures routinely used in clinical settings. This assessment task will assist you in understanding how pathological conditions of the respiratory system impact normal physiology and how they present in routine clinical tests.

You will be given a series of case studies and associated data. You will be required to interpret the given information by identifying the pathological condition that is presented and provide answers to a series of questions that relate to each case study. In providing a response you may refer to the textbook, journal articles, and professional body websites. Further information regarding the assessment item will be available on the unit Moodle page.

**Assessment Due Date**

Week 8 Friday (9 Sept 2022) 11:59 pm AEST

**Return Date to Students**

Week 10 Friday (23 Sept 2022)

Feedback will be returned via Moodle.

**Weighting**

50%

**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 marking guide.

**Referencing Style**

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

**Submission**

Online

**Submission Instructions**

Submit as a Word Document

**Learning Outcomes Assessed**

- Discuss the underlying pathophysiology of cardiovascular and respiratory conditions
- Discuss the principles and procedures of various cardiovascular and respiratory measurements according to best practice guidelines
- Justify the implementation of a particular cardiovascular or respiratory measurement

- Interpret the results of cardiovascular and respiratory measurements
- Review the pharmacological implications associated with cardiovascular and respiratory measurements
- Discuss the physiological exercise responses in cardiovascular and respiratory measurement.

### **Graduate Attributes**

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

## **2 Interactive Oral Presentation**

### **Assessment Type**

Online Test

### **Task Description**

Throughout this course, you have explored a number of techniques used to assess cardiovascular and respiratory function in patients and how disease processes can alter normal function.

This assessment item will assess your understanding of the content covered in weeks 7-11 and its application to clinical scenarios.

During this assessment, students will be required to provide a verbal response to a series of questions. Each student will be required to select a time during week 12 to complete this assessment task. Further details will be provided to students via the Moodle site after the mid-semester break.

### **Assessment Due Date**

Oral presentations will be delivered during week 12. Booking timeslots will be made available on the Moodle site after Census date.

### **Return Date to Students**

Certification of Grades

### **Weighting**

50%

### **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**

Students will be assessed on their ability to apply theoretical concepts to current modern-day issues.

### **Referencing Style**

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

### **Submission**

Online

### **Submission Instructions**

Oral assessments will be conducted live via Zoom.

### **Learning Outcomes Assessed**

- Discuss the underlying pathophysiology of cardiovascular and respiratory conditions
- Discuss the principles and procedures of various cardiovascular and respiratory measurements according to best practice guidelines
- Justify the implementation of a particular cardiovascular or respiratory measurement
- Interpret the results of cardiovascular and respiratory measurements
- Review the pharmacological implications associated with cardiovascular and respiratory measurements
- Discuss the physiological exercise responses in cardiovascular and respiratory measurement.

### **Graduate Attributes**

- Communication

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

## Academic Integrity Statement

As a CQUniversity student you are expected to act honestly in all aspects of your academic work.

Any assessable work undertaken or submitted for review or assessment must be your own work. Assessable work is any type of work you do to meet the assessment requirements in the unit, including draft work submitted for review and feedback and final work to be assessed.

When you use the ideas, words or data of others in your assessment, you must thoroughly and clearly acknowledge the source of this information by using the correct referencing style for your unit. Using others' work without proper acknowledgement may be considered a form of intellectual dishonesty.

Participating honestly, respectfully, responsibly, and fairly in your university study ensures the CQUniversity qualification you earn will be valued as a true indication of your individual academic achievement and will continue to receive the respect and recognition it deserves.

As a student, you are responsible for reading and following CQUniversity's policies, including the [Student Academic Integrity Policy and Procedure](#). This policy sets out CQUniversity's expectations of you to act with integrity, examples of academic integrity breaches to avoid, the processes used to address alleged breaches of academic integrity, and potential penalties.

### **What is a breach of academic integrity?**

A breach of academic integrity includes but is not limited to plagiarism, self-plagiarism, collusion, cheating, contract cheating, and academic misconduct. The Student Academic Integrity Policy and Procedure defines what these terms mean and gives examples.

### **Why is academic integrity important?**

A breach of academic integrity may result in one or more penalties, including suspension or even expulsion from the University. It can also have negative implications for student visas and future enrolment at CQUniversity or elsewhere. Students who engage in contract cheating also risk being blackmailed by contract cheating services.

### **Where can I get assistance?**

For academic advice and guidance, the [Academic Learning Centre \(ALC\)](#) can support you in becoming confident in completing assessments with integrity and of high standard.

### **What can you do to act with integrity?**



**Be Honest**

If your assessment task is done by someone else, it would be dishonest of you to claim it as your own



**Seek Help**

If you are not sure about how to cite or reference in essays, reports etc, then seek help from your lecturer, the library or the Academic Learning Centre (ALC)



**Produce Original Work**

Originality comes from your ability to read widely, think critically, and apply your gained knowledge to address a question or problem