



# MEDS20014 *Bedside Cardiac Ultrasound for Point of Care (PoCUS)*

## Term 3 - 2023

Profile information current as at 18/04/2024 07:43 am

All details in this unit profile for MEDS20014 have been officially approved by CQU University 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 aims to develop your knowledge and understanding of point of care ultrasound (PoCUS) to identify and diagnose cardiac pathology. To enrol in this unit you must be a graduate of a science or health / medical course. To successfully complete all assessments, you must be able to undertake ultrasound scans in a clinical environment with appropriate supervision. You will use PoCUS to identify cardiac anatomical structures and diagnose pathology to assist patient management. You will learn transducer manipulation techniques and skills to optimise ultrasound images for documentation.

### Details

Career Level: *Postgraduate*

Unit Level: *Level 8*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

### Pre-requisites or Co-requisites

Co-requisite: MEDS20009 Science and Instrumentation of Ultrasound

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 3 - 2023

- 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 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. **Practical Assessment**

Weighting: Pass/Fail

#### 2. **Portfolio**

Weighting: Pass/Fail

### Assessment Grading

This is a pass/fail (non-graded) unit. To pass the unit, you must pass all of the individual assessment tasks shown in the table above.

## 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](#).

## Unit Learning Outcomes

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

1. Evaluate the benefits and limitations of using diagnostic transthoracic cardiac ultrasound in emergency or point of care (PoC) medicine
2. Apply safe transthoracic cardiac ultrasound techniques to generate optimised diagnostic images of the heart and great vessels
3. Integrate transthoracic cardiac ultrasound images into the clinical decision making process and patient management.

**The International Federation for Emergency Medicine (IFEM) Point of care curriculum guidelines**

3.3 Demonstration of how to generate and optimise an image- 2

3.4 Demonstration of good practice in point-of-care ultrasound- 1.2 and 3



## Textbooks and Resources

### Textbooks

MEDS20014

#### Supplementary

##### **Emergency Point of Care Ultrasound**

Edition: 2nd (2017)

Authors: Melniker, Lawrence A., Connolly, James A.

Wiley Blackwell

Chichester, England

ISBN: 9781119072874

Binding: eBook

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#### Supplementary

##### **Point of Care Ultrasound Made Easy**

Edition: 1st (2020)

Authors: John McCafferty, James M. Forsyth

Taylor & Francis Group

Oxfordshire, England

ISBN: 9781000039511

Binding: eBook

### IT Resources

#### You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Microphone, speakers and video camera to attend and participate in the Zoom tutorials

## Referencing Style

All submissions for this unit must use the referencing style: [Vancouver](#)

For further information, see the Assessment Tasks.

## Teaching Contacts

**Kathleen Sweeney** Unit Coordinator

[k.sweeney@cqu.edu.au](mailto:k.sweeney@cqu.edu.au)

## Schedule

### **Week 1: Introduction to focused cardiac ultrasound (FoCUS) - 06 Nov 2023**

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to focused cardiac ultrasound (FoCUS). Revision of cardiac anatomy.	Lectures and readings on Moodle.	

### **Week 2: Sonographic views used to assess the heart - 13 Nov 2023**

Module/Topic	Chapter	Events and Submissions/Topic
Sonographic views used to assess the heart.	Lectures and readings on Moodle.	

**Week 3: The left ventricle - 20 Nov 2023**

Module/Topic	Chapter	Events and Submissions/Topic
The left ventricle.	Lectures and readings on Moodle.	

**Week 4: The right ventricle and the IVC - 27 Nov 2023**

Module/Topic	Chapter	Events and Submissions/Topic
The right ventricle and the IVC.	Lectures and readings on Moodle.	

**Vacation Week - 04 Dec 2023**

Module/Topic	Chapter	Events and Submissions/Topic
	No new content	

**Week 5: The pericardium - 11 Dec 2023**

Module/Topic	Chapter	Events and Submissions/Topic
The pericardium.	Lectures and readings on Moodle.	

**Week 6: The heart valves - 18 Dec 2023**

Module/Topic	Chapter	Events and Submissions/Topic
The heart valves.	Lectures and readings on Moodle.	

**Vacation Week - 25 Dec 2023**

Module/Topic	Chapter	Events and Submissions/Topic
	No new content	

**Week 7: Intracardiac masses - 01 Jan 2024**

Module/Topic	Chapter	Events and Submissions/Topic
Intracardiac masses.	Lectures and readings on Moodle.	

**Week 8: Acute versus chronic cardiac disease - 08 Jan 2024**

Module/Topic	Chapter	Events and Submissions/Topic
Acute versus chronic cardiac disease.	Lectures and readings on Moodle.	

**Week 9: Paediatric congenital heart disease - 15 Jan 2024**

Module/Topic	Chapter	Events and Submissions/Topic
Paediatric congenital heart disease.	Lectures and readings on Moodle.	<b>Residential School.</b> Details of day and time given at the start of term. The practical assessment will be done at the residential school. <b>Compulsory</b> Online Induction for your campus is required to be completed prior to attending Residential School.

**Week 10: Case study discussions - 22 Jan 2024**

Module/Topic	Chapter	Events and Submissions/Topic
Case study discussions part 1.	Lectures and readings on Moodle.	

**Week 11: Case study discussions - 29 Jan 2024**

Module/Topic	Chapter	Events and Submissions/Topic
Case study discussions part 2.	Lectures and readings on Moodle.	

**Week 12: Revision - 05 Feb 2024**

Module/Topic	Chapter	Events and Submissions/Topic
Revision. Work on completing Assessment 2.	Lectures and readings on Moodle.	<b>Assessment</b> (Portfolio) due Friday 4pm AEST <b>Portfolio: Five bedside cardiac ultrasound examinations.</b> Due: Week 12 Friday (9 Feb 2024) 4:00 pm AEST

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

Your unit coordinator for this term is Kathleen Sweeney. Kathleen is based in Sydney and works with CQU on Tuesdays, Wednesdays and Fridays. The most efficient way to contact her is via email: [k.sweeney@cqu.edu.au](mailto:k.sweeney@cqu.edu.au)  
Zoom tutorials will be held throughout the term. They are not compulsory but are recommended. They give an opportunity for interaction and discussion with the tutor and the other students. The tutorials will be recorded for later viewing (if there are live attendees). Tutorials times will be confirmed at the beginning of term.

## Assessment Tasks

### 1 Practical assessment

**Assessment Type**

Practical Assessment

**Task Description**

Acquiring, interpreting, and integrating information appropriately into the clinical decision making process is important in providing quality health care. Ultrasound can be used to aid the clinical decision making process and guide patient management. The acquisition and interpretation of ultrasound images for appropriate clinical integration of findings takes practice. You will need to demonstrate your ability to perform a bedside cardiac ultrasound assessment on a live patient or model. You will need to acquire cardiac views, optimise the image quality to allow it to be at a diagnostic level, demonstrate your ability to interpret images with correct recognition of anatomy and any pathology if present and appropriately document findings and outline the clinical integration of findings in patient management. This practical assessment will be performed at the residential school, (although there may be an ability for it to be performed remotely at a workplace, with a video of the sonographic examination conducted submitted. A written outline to describe views conducted, any difficulties obtaining views, the sonographic findings and how these guided patient management will be required to be submitted alongside evidence of your practical assessment).

**Assessment Due Date**

Practical assessment held during the residential school - details to be finalised at the beginning of term

**Return Date to Students**

Week 9 Monday (15 Jan 2024)

**Weighting**

Pass/Fail

**Minimum mark or grade**

50%

**Assessment Criteria**

You will be assessed on the appropriate use of ultrasound equipment, adequate image acquisition relative to the patient scenario, image optimisation, image interpretation and safe integration of the sonographic findings into clinical practice.

**Referencing Style**

- [Vancouver](#)

**Submission**

No submission method provided.

**Learning Outcomes Assessed**

- Evaluate the benefits and limitations of using diagnostic transthoracic cardiac ultrasound in emergency or point of care (PoC) medicine
- Apply safe transthoracic cardiac ultrasound techniques to generate optimised diagnostic images of the heart and great vessels
- Integrate transthoracic cardiac ultrasound images into the clinical decision making process and patient management.

## Graduate Attributes

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

## 2 Portfolio: Five bedside cardiac ultrasound examinations.

### Assessment Type

Portfolio

### Task Description

You are required to develop and submit a portfolio assessment consisting of **five bedside cardiac ultrasound examinations** performed by you. This will assist you to develop proficiency in performing the FoCUS protocol, including defining an appropriate indication for the test, obtaining diagnostic on-axis cardiac views, image optimization, recognition of anatomy and any pathology, appropriate documentation, and integration of findings in to patient management.

The portfolio will consist of:

1. Introduction to five cases
2. Outline of each of the three sonographic cases including:
  - Clinical indications for the examination
  - Description of the sonographic protocol used, and an outline of the ultrasound imaging obtained (real time scanning and stored static images and cine clips for documentation). Static images will be labelled to identify structures for educational purposes. The acquisition plane of the image must be described. All sonographic imaging must be de-identified.
  - Justification for extent of sonographic imaging performed and what anatomy and any pathology (if present) was demonstrated
  - Critique of the sonographic imaging
  - Report of the sonographic findings using correct sonographic terminology
  - Patient management post sonographic imaging
  - Reflection on what went well, how the sonographic imaging may have been improved, what you could have done to improve the quality of the imaging produced (if needed) and what you may do differently in the future studies to aid a diagnosis
3. Summary and learning points from the portfolio
4. References

Please ensure that patient privacy is adhered to by de-identifying images.

### Assessment Due Date

Week 12 Friday (9 Feb 2024) 4:00 pm AEST

### Return Date to Students

Results will be uploaded to Moodle.

### Weighting

Pass/Fail

**Minimum mark or grade**

50%

**Assessment Criteria**

Your portfolio will be assessed on:

- \* Academic writing including the layout and flow from beginning to end, succinct and relevant descriptions of the patient history, sonographic imaging obtained and findings discussed, critique of imaging performed, image interpretation, safe integration into clinical practice, and identification of areas for improvement if required and impact of imaging of patient management. A reflection to allow future learning must be demonstrated.
  - \* Use of evidence based information to support statements used
  - \* Inclusion of images which are de-identified and labelled. All images must be referred to in-text and figure numbers provided
  - \* Insight must be demonstrated with self-reflection and identification of learning points to enhance future practice.
- Assessment will be conducted in line with the marking rubric, which is available on the unit Moodle site.

**Referencing Style**

- [Vancouver](#)

**Submission**

Online

**Learning Outcomes Assessed**

- Evaluate the benefits and limitations of using diagnostic transthoracic cardiac ultrasound in emergency or point of care (PoC) medicine
- Apply safe transthoracic cardiac ultrasound techniques to generate optimised diagnostic images of the heart and great vessels
- Integrate transthoracic cardiac ultrasound images into the clinical decision making process and patient management.

**Graduate Attributes**

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- 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