



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

## Term 2 - 2019

Profile information current as at 30/04/2024 10:50 pm

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 the 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 2 - 2019

- 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. **Written 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](#).

## 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 In-class feedback

##### **Feedback**

The student appreciated the unit content, zoom content and residential school.

##### **Recommendation**

Zoom tutorials and residential school to be continued in the present format.

## Unit Learning Outcomes

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

1. Evaluate the benefits and limitations of using diagnostic transthoracic echocardiography in emergency or point of care (PoC) medicine
2. Apply safe transthoracic echocardiography techniques to generate optimised diagnostic images of the heart and great vessels
3. Integrate transthoracic echocardiography 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

**There are no required textbooks.**

### 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

**Ashley Spermon** Unit Coordinator  
[a.spermon@cqu.edu.au](mailto:a.spermon@cqu.edu.au)

## Schedule

### Week 1 - 15 Jul 2019

Module/Topic	Chapter	Events and Submissions/Topic
<b>Introduction</b> to FoCUS. Principles, benefits, limitations, safe techniques, and outcomes.	Lectures and readings on Moodle.	

### Week 2 - 22 Jul 2019

Module/Topic	Chapter	Events and Submissions/Topic
<b>FoCUS Protocol</b> and the <b>Normal Heart</b> . Introduction of the three questions: Size? Function? Effusion?	Lectures and readings on Moodle.	<b>Residential School 1 (compulsory):</b> Brisbane 9 am to 4 pm Tuesday 23rd July <b>**OR**</b> Perth 9 am to 4 pm Thursday 25th July

### Week 3 - 29 Jul 2019

Module/Topic	Chapter	Events and Submissions/Topic
<b>Qualitative Assessment of the Left Ventricle</b> . Size and function.	Lectures and readings on Moodle.	

### Week 4 - 05 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic
<b>Qualitative Assessment of the Right Ventricle</b> . Size and function. <b>Assessment of the Inferior Vena Cava</b> . Size and collapsibility.	Lectures and readings on Moodle.	

### Week 5 - 12 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic
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**Identification of Pericardial**

**Effusion.** Introduction to sonographic signs of tamponade. Lectures and readings on Moodle.

**Vacation Week - 19 Aug 2019****Module/Topic****Chapter****Events and Submissions/Topic**

Take this opportunity to **revise** the content from weeks one to five. Keep working on your **portfolio**.

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

**Clinical Applications of FoCUS.**  
Case Studies: Part 1.

Lectures and readings on Moodle.

**Week 7 - 02 Sep 2019****Module/Topic****Chapter****Events and Submissions/Topic**

**Clinical Applications of FoCUS.**  
Case Studies: Part 2.

Lectures and readings on Moodle.

**Week 8 - 09 Sep 2019****Module/Topic****Chapter****Events and Submissions/Topic**

**Identification of Gross Valvular Abnormalities.** Normal versus suspicious.

Lectures and readings on Moodle.

**Week 9 - 16 Sep 2019****Module/Topic****Chapter****Events and Submissions/Topic**

**Identification of Intracardiac Masses.** Normal versus suspicious.

Lectures and readings on Moodle.

**Week 10 - 23 Sep 2019****Module/Topic****Chapter****Events and Submissions/Topic**

**Identification of Signs of Chronic Heart Disease.** Using FoCUS to assist in identifying acute versus chronic cardiac disease.

Lectures and readings on Moodle.

**Week 11 - 30 Sep 2019****Module/Topic****Chapter****Events and Submissions/Topic**

**Clinical Applications of FoCUS.**  
Case Studies: Part 3.

Lectures and readings on Moodle.

**Week 12 - 07 Oct 2019****Module/Topic****Chapter****Events and Submissions/Topic**

**Review** of MEDS20014 content.

Lectures and readings on Moodle.

**Residential School 2 (compulsory):**  
Brisbane 9 am to 4 pm Tuesday 8th October **\*\*\*OR\*\*\*** Perth 9 am to 4 pm Thursday 17th October  
Assessments to be finalised at Residential School

**Practical Assessment** Due: Week 12 Tuesday (8 Oct 2019) 12:00 pm AEST  
**Portfolio Assessment** Due: Week 12 Tuesday (8 Oct 2019) 12:00 pm AEST

**Review/Exam Week - 14 Oct 2019****Module/Topic****Chapter****Events and Submissions/Topic****Exam Week - 21 Oct 2019****Module/Topic****Chapter****Events and Submissions/Topic**

## Term Specific Information

**The unit coordinators** for MEDS20014 are **Ashley Spermon** and **Paul Neilsen**. The best way to contact Ashley is a.spermon@cqu.edu.au, and Paul is p.neilsen@cqu.edu.au. Please put the unit code MEDS20014 in the subject title. Ashley and Paul have laboratory commitments and are often away from the desk, therefore, it is often best to email and request a scheduled meeting (over the phone, via Zoom, or in person), if necessary.

**The first point of contact is the Q&A forum** on the unit Moodle site. This forum is monitored and responses will be posted to all students in a timely manner.

**Access to the internet is required** to undertake this unit, as unit materials, tutorials, and updates will be provided via Moodle, email, and Zoom. Weekly resources will include access to relevant websites, activities and readings. To give yourself the best chance of success with this unit, please ensure that you undertake all of the readings and activities that are provided for you. **Access to cardiac sonography equipment is required** to perform, collect, and present cases for tutorial discussion, and prepare for the portfolio and practical assessments. There is a theoretical and practical element to this unit - students are encouraged to actively participate in the collection of scans to gain the maximum benefit of this unit.

**Attendance at the Residential Schools is Compulsory.** You must attend the Residential School. Non-attendance must be documented with a Medical Certificate or equivalent. **LIVE Zoom tutorials** will be held during the term. Specific times and meeting IDs will be posted on the unit Moodle site. Discussions about unit content, assessment, and clinical competency tests are provided in the tutorials. Tutorials are recorded for you for later perusal. Attendance at tutorials is recommended.

**As this is a 6 credit point unit, you are expected to spend an average of 12.5 hours each week on study activities for this unit.** This time includes reviewing lectures, creating notes to meet learning objectives, researching and working on assessment, and attending the Residential School.

## Assessment Tasks

### 1 Practical Assessment

#### Assessment Type

Written Assessment

#### Task Description

Acquiring, interpreting, and integrating information appropriately in to the clinical decision making process is important in providing quality health care. Ultrasound is an accessible modality that can aid in acquiring new information to be utilised in the clinical decision making process. Ultrasound has good diagnostic accuracy, however this modality is operator dependent, and therefore requires training in the acquisition and interpretation of ultrasound images for appropriate clinical integration of findings.

The clinical competency PRACTICAL ASSESSMENT will evaluate student ability in performing the FoCUS protocol on a live patient model. The assessment will look for competency in the performance of the FoCUS protocol, including patient care, clinical factors including infection control, acquiring cardiac views, image optimisation, interpreting images with correct recognition of anatomy and pathology, appropriate documentation, and clinical integration of findings in to patient management.

THIS IS A PASS/FAIL ASSESSMENT. To be deemed competent, a PASS must be achieved for all criteria. Any FAIL in one or more criteria equates to a fail.

The practical assessment will be conducted at Residential School 2. You will use knowledge from previous weeks as well as skills learned at the Residential Schools to perform the task under the supervision of a Tutor. Results will be uploaded to Moodle within 2 weeks of the assessment.

#### Assessment Due Date

Week 12 Tuesday (8 Oct 2019) 12:00 pm AEST

Conducted at Residential School 2

#### Return Date to Students

Exam Week Friday (25 Oct 2019)

Results will be uploaded to Moodle.

### **Weighting**

Pass/Fail

### **Assessment Criteria**

The student will be assessed on their ability in:

- Patient care
- Appropriate use of ultrasound equipment
- Infection control
- Image acquisition
- Image interpretation
- Safe clinical integration into practice

Assessment will be conducted in line with the marking rubric, which is available on the unit Moodle site.

### **Referencing Style**

- [Vancouver](#)

### **Submission**

Offline

### **Submission Instructions**

Conducted at Residential School 2.

### **Learning Outcomes Assessed**

- Evaluate the benefits and limitations of using diagnostic transthoracic echocardiography in emergency or point of care (PoC) medicine
- Apply safe transthoracic echocardiography techniques to generate optimised diagnostic images of the heart and great vessels
- Integrate transthoracic echocardiography 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 Assessment**

### **Assessment Type**

Portfolio

### **Task Description**

Acquiring, interpreting, and integrating information appropriately into the clinical decision making process is important in providing quality health care. Ultrasound is an accessible modality that requires practical experience to develop the technical skills required to acquire and interpret an ultrasound image. Ultrasound has good diagnostic accuracy, however this modality is operator dependent, and therefore requires training in the acquisition and interpretation of ultrasound images for appropriate clinical integration of findings.

The PORTFOLIO ASSESSMENT will develop and assess proficiency in performing the FoCUS protocol, including defining an appropriate indication for the test, obtaining on-axis cardiac views, image optimisation, recognition of anatomy and pathology, appropriate documentation, and integration of findings into patient management.

THIS IS A PASS/FAIL ASSESSMENT. To be deemed competent, 25 cases must be collected, interpreted, and reviewed, by student's supervisor. Students must bring a hard copy of their portfolio, and all FoCUS images from all cases on a USB drive for review (save as .avi or .bmp file). Please ensure that patient privacy is adhered to by de-identifying images.

The portfolio assessment will be due at Residential School 2. Results will be uploaded to Moodle within 2 weeks of the assessment.



**Assessment Due Date**

Week 12 Tuesday (8 Oct 2019) 12:00 pm AEST

Due at Residential School 2

**Return Date to Students**

Exam Week Friday (25 Oct 2019)

Results will be uploaded to Moodle.

**Weighting**

Pass/Fail

**Assessment Criteria**

The student will be assessed on their ability in:

- Appropriate use of ultrasound equipment
- Image acquisition
- Image interpretation
- Safe clinical integration into practice

Assessment will be conducted in line with the marking rubric, which is available on the unit Moodle site.

**Referencing Style**

- [Vancouver](#)

**Submission**

Offline

**Submission Instructions**

Due at Residential School 2. Students must bring a hard copy of their portfolio, and all FoCUS images from all cases on a USB drive for review (save as .avi file). Please ensure that patient privacy is adhered to by de-identifying images.

**Learning Outcomes Assessed**

- Evaluate the benefits and limitations of using diagnostic transthoracic echocardiography in emergency or point of care (PoC) medicine
- Apply safe transthoracic echocardiography techniques to generate optimised diagnostic images of the heart and great vessels
- Integrate transthoracic echocardiography 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