



# MEDS13001 *Obstetric and Breast Ultrasound*

## Term 1 - 2024

Profile information current as at 19/05/2024 01:17 am

All details in this unit profile for MEDS13001 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

This unit advances your study of obstetric ultrasound from MEDS12006 into the second trimester as well as evaluating the sonographer's role in technique and evaluation of the breast. You will explore the sonographic assessment of normal and pathological obstetric ultrasound and breast ultrasound cases. You will participate in simulated scanning sessions to facilitate the identification of normal sonographic appearance of the second trimester fetus as well as basic breast scanning techniques and lesion localisation. Clinical scenarios are used to engage you in the sonographic decision-making process which expands your knowledge and assists in creating sonographer reports.

### Details

Career Level: *Undergraduate*

Unit Level: *Level 3*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

### Pre-requisites or Co-requisites

Prerequisite: MEDS12006 Ultrasound in Obstetrics and Gynaecology 1

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

- Brisbane
- Mackay
- Melbourne
- Sydney

### 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. **Practical and Written Assessment**

Weighting: 30%

#### 2. **Online Quiz(zes)**

Weighting: 20%

#### 3. **Examination**

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 SUTE

**Feedback**

Students found tutorials informative and helpful in terms of unpacking and gaining a deeper understanding of the lecture content.

**Recommendation**

Explore ways to further enhance tutorial content and increase attendance so that more students can benefit from the interactive tutorials.

#### Feedback from SUTE

**Feedback**

Some students sought further details and clarification of the Assessment task description.

**Recommendation**

Rewrite the written assessment task description to further clarify the requirements and expectations and ensure the marking rubric corresponds well to the task description.

#### Feedback from SUTE

**Feedback**

Some students felt that the unit was assessment heavy toward the end of term.

**Recommendation**

Consider splitting the week 9 online quiz into two separate quizzes.

## Unit Learning Outcomes

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

1. Analyse normal and abnormal obstetric ultrasound findings with reference to embryology, clinical presentation, sonographic appearance and aetiology
2. Analyse normal and abnormal breast ultrasound findings with reference to anatomy, clinical presentation, sonographic appearance, aetiology and correlation with other breast imaging modalities
3. Analyse clinical scenarios to provide a differential diagnosis and produce sonographic reports
4. Formulate strategies for the provision of safe and ethical patient care
5. Apply sonographic techniques and diagnostic criteria, appropriate to obstetric and breast ultrasound respectively, to produce and analyse limited examinations in a simulated environment.

The learning outcomes for this unit relate to the requirements of the Australian Sonographers Association Competency Standards for the Entry Level Sonographer as listed here.

Unit 1-3, 7 & 10.

## Alignment of Learning Outcomes, Assessment and Graduate Attributes



### Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
<b>1 - Practical and Written Assessment - 30%</b>				•	•
<b>2 - Online Quiz(zes) - 20%</b>	•	•			
<b>3 - Examination - 50%</b>	•	•	•	•	

### Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
<b>1 - Communication</b>	•	•	•	•	
<b>2 - Problem Solving</b>	•	•	•		•
<b>3 - Critical Thinking</b>	•	•			•
<b>4 - Information Literacy</b>	•	•	•		
<b>5 - Team Work</b>					
<b>6 - Information Technology Competence</b>					•
<b>7 - Cross Cultural Competence</b>				•	
<b>8 - Ethical practice</b>			•	•	
<b>9 - Social Innovation</b>					
<b>10 - Aboriginal and Torres Strait Islander Cultures</b>					

## Textbooks and Resources

### Textbooks

MEDS13001

#### Supplementary

##### **Callen's Ultrasonography in Obstetrics and Gynecology**

Edition: 6th (2016)

Authors: Mary E. Norton

Elsevier

ISBN: 0323328342

Binding: eBook

MEDS13001

#### Supplementary

##### **Fundamental and Advanced Fetal Imaging: Ultrasound and MRI Edition**

Edition: 2nd (2020)

Authors: John McCafferty, James M. Forsyth

Wolters Kluwer Health

ISBN: 197511700X

Binding: eBook

### 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: [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 - 04 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
<ul style="list-style-type: none"><li>• Breast Anatomy</li><li>• Ultrasound (US) Appearance of Normal Breast Tissue</li></ul>	Content provided in lectures and reading items on Moodle page.	<b>Compulsory</b> Online Safety Induction to be completed by Monday. Zoom tutorial Friday 11 am AEST.

### Week 2 - 11 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
<ul style="list-style-type: none"><li>• US Appearance of Breast Pathology</li><li>• Correlation of Breast US with Other Imaging Modalities</li></ul>	Content provided in lectures and reading items on Moodle page.	Zoom tutorial Friday 11 am AEST.

### Week 3 - 18 Mar 2024

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

• Fetal Environment	Content provided in lectures and reading items on Moodle page.	Zoom tutorial Friday 11 am AEST.
<b>Week 4 - 25 Mar 2024</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
• Fetal Biometry	Content provided in lectures and reading items on Moodle page.	
<b>Week 5 - 01 Apr 2024</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
• Fetal Heart	Content provided in lectures and reading items on Moodle page.	<b>Lab #1</b> Wednesday 3 April. Zoom tutorial Friday 11 am AEST.
<b>Vacation Week - 08 Apr 2024</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Vacation week. No new content.		
<b>Week 6 - 15 Apr 2024</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
• Fetal Heart continued	Content provided in lectures and reading items on Moodle page.	<b>Lab #2</b> Wednesday 17 April. <b>Quiz 1:</b> Due Friday 3pm AEST. Zoom tutorial Friday 11 am AEST.
<b>Week 7 - 22 Apr 2024</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
• Fetal Neural Tube Structures	Content provided in lectures and reading items on Moodle page.	Zoom tutorial Friday 11 am AEST.  <b>Practical and Written Assessment</b> Due: Week 7 Friday (26 Apr 2024) 4:00 pm AEST
<b>Week 8 - 29 Apr 2024</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
• Fetal face, neck and chest	Content provided in lectures and reading items on Moodle page.	Zoom tutorial Friday 11 am AEST.
<b>Week 9 - 06 May 2024</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
• Fetal gastrointestinal, genitourinary and musculo-skeletal systems	Content provided in lectures and reading items on Moodle page.	Zoom tutorial Friday 11 am AEST.
<b>Week 10 - 13 May 2024</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
• Fetal anomalies and disorders	Content provided in lectures and reading items on Moodle page.	<b>Quiz 2:</b> Due Friday 3pm AEST. Zoom tutorial Friday 11 am AEST.
<b>Week 11 - 20 May 2024</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
• Multiple gestations	Content provided in lectures and reading items on Moodle page.	Zoom tutorial Friday 11 am AEST.
<b>Week 12 - 27 May 2024</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
Review week.		
<b>Review/Exam Week - 03 Jun 2024</b>		
<b>Module/Topic</b>	<b>Chapter</b>	<b>Events and Submissions/Topic</b>
<b>End of term exam.</b> Time and date to be confirmed.		

## Term Specific Information

The unit coordinator is Kathleen Sweeney. Kathleen is based on the Sydney campus and works with CQU part-time: Tuesday, Wednesday and Friday. The best way to contact her is via email: k.sweeney@cqu.edu.au, however please keep in mind that there may be some delay in responding to emails on her non-CQU days. She is however, generally very responsive to email.

It is important that students regularly check their student email and the News Forum on Moodle to receive updates about the unit. Please ensure that your email correspondence is via your CQU student email.

As this is a 6 credit point unit, you are expected to spend on average 12.5 hours each week on study activities for this unit.

This time includes:

Watching recorded lectures and attending tutorials

Creating study notes to meet weekly learning objectives using lectures, videos, and additional resources via the eReading list to supplement your learning

Researching, revising, and working on assessment items

Completing formative quiz questions and worksheets

Lab time is made available (weeks 5 and 6) to obtain recordings and images to complete Assessment 1.

Discussions about unit content and assessment are provided in the tutorials. Tutorials are held on Fridays at 11 am AEST. The schedule and link to tutorials is available on Moodle under the Virtual Classroom tile. Tutorial recordings will be available on the unit Moodle site the following day.

The unit is graded. There are three assessment items. Please refer to the assessment information for more details.

## Assessment Tasks

### 1 Practical and Written Assessment

#### Assessment Type

Practical and Written Assessment

#### Task Description

This assessment will require you to practically acquire images and videos using phantoms in the CQU sonography labs and provided obstetric ultrasound images, and provide a written discussion on your imaging series. Part A will focus on the obstetric component and Part B will focus on the breast component.

#### **Part A- Obstetrics Component**

##### Overview

The sonographic assessment of fetal morphology is an important component for the prenatal assessment of fetal structural conditions, biometry, placental position, amniotic fluid, and fetal number. The findings can have significant implications for the management of pregnancy, for delivery, and post-natal care. The purpose of this assessment is to prepare you for undertaking sonographic assessment in a clinical environment and analyse the sonographer's role in the routine mid trimester morphology scan.

##### Task Description

Practical component- Acquisition of videos, images and measurements.

It is important that sonographers have the necessary skills and knowledge to safely and effectively image patients. This involves probe manipulation to adapt for fetal position, appropriate image optimisation, accurate measurements, and image evaluation. You will complete the following components:

1. Using the 2nd trimester obstetric phantoms in the CQU sonography lab, your task is to produce two (2) short videos (maximum length 2 minutes each) with audio (using smart phone or similar) demonstrating and explaining how you will personally assess the following:
  - a. Fetal position and situs
  - b. Axial sweep through the fetal heart to include 4 chamber heart and outflow tracts.
2. Using the 2nd Trimester obstetric phantoms, acquire the following sonographic static images:
  - a. Sagittal fetal profile

- b. Axial trans thalamic plane
  - c. Axial abdomen at the level where the abdominal circumference would be measured
  - d. Longitudinal femur
  - e. Placental location (to include cord insertion)
- 3.** Static sonographic Images will be provided. You will analyse the images and personally select the most technically correct image and obtain multiple measurements of parameters (minimum of 2 each) for the following images:
- a. Bi-parietal diameter (BPD)/head circumference (HC)
  - b. Abdominal circumference (AC)
  - c. Femoral length (FL)
  - d. Cervix length
  - e. Cerebellum, cisterna magna, and nuchal fold
- A report summary (containing all the measurements for all components in item 3) and graphs are to be included.

You must use your own unique MRN to produce these videos, images, reports, and graphs. They must be your own work. Any identified cases of potential collusion will result in a breach of academic integrity case being raised.

Written component- Discussion of image series

Please ensure all images (and where relevant report pages/graphs) are included within your discussion.

- 1.** For each image acquired in item 2 of the practical component, provide a brief (dot points are adequate) critique of your image. Name at least two (2) important reasons as to why the image was acquired in this way e.g., anatomical orientation for accurate caliper placement.
- 2.** You will provide a reflective discussion on your imaging series for item 3. For each image submitted:
  - a. Justify the clinical purpose or importance of each image and/or measurement (Why do we take the image/measurement? How is the information used clinically?). Ensure your discussion includes the interpretation of measurements and graphs that you generated where appropriate.
  - b. Discuss the key factors of image optimisation for each individual image (Do you need to adjust technical parameters or utilise practical skills to demonstrate the structure in a particular position? What structures are important for each of the images, and why?).

## **Part B- Breast Component**

### **Overview**

Breast ultrasound is an important practical component in screening and the diagnosis of breast disease. This component will assess the sonographer's role in the technique and evaluation of lesions.

### **Task Description**

Practical component- Acquisition of video, images, and analysis of a lesion.

Using the breast phantoms in the CQU sonography lab, you will personally acquire the following:

- 1.** A short video (maximum 2 minutes) with audio (using smart phone or similar) demonstrating and explaining how to perform one (1) of either a) cross hatch survey scanning or b) radial and anti- radial survey scanning.
- 2.** Obtain four (4) US images taken at 12 o'clock, 3 o'clock, 6 o'clock and 9 o'clock positions. Images should be appropriately optimised, annotated, and with body marker correctly used.
- 3.** Choose one (1) lesion within the breast phantom. Image and measure this lesion in two orthogonal planes, using appropriate optimisation, annotation, and body markers.

You must use your own unique MRN to produce these videos and images, and they must be your own work. Any identified cases of potential collusion will result in a breach of academic integrity case being raised.

Written component- Discussion of image series

Please ensure all images (items 2 and 3) are included within your assessment.

For the images of your chosen lesion (item 3) ONLY:

- critique the image quality (specifically any aspects needing improvement)
- describe the lesion using appropriate terminology (appearance, size, location, etc.)
- based on the appearances of the lesion you have chosen, determine the BIRADS classification.

### **Assessment Due Date**

Week 7 Friday (26 Apr 2024) 4:00 pm AEST

### **Return Date to Students**

Week 9 Friday (10 May 2024)

### **Weighting**

30%

### **Minimum mark or grade**

50%



## Assessment Criteria

All components will be assessed for adherence and attention to task requirements. A marking rubric is available for more detailed outline of assessment criteria.

Practical component - Acquisition of images

Your images and videos will be assessed for:

- optimisation
- scan plane
- demonstration and explanation of technique
- appropriate selection of image
- accurate caliper placement
- annotation
- use of ultrasound machine features (zoom, chroma maps, split screen, etc.)
- appropriate timing (where applicable)

Written component - Discussion of image series

Your discussion will be assessed on:

- spelling, grammar, and academic writing
- critical evaluation of research sources and accurate and complete referencing
- adherence to word count (penalties will apply if too brief or too lengthy)

As well as the following:

Part A

- quality of critique on image quality for images in item 1
- justification of clinical relevance of images and interpretation of reports/graphs for item 2
- discussion of key optimisation techniques for item 2

Part B

- quality of provided images
- quality of critique on image quality
- accuracy of description of basic lesion characterisation

The following assessment supports can be found on the unit Moodle site

- Marking rubric
- Assessment Video
- Vancouver referencing information

## Referencing Style

- [Vancouver](#)

## Submission

Online

## Learning Outcomes Assessed

- Formulate strategies for the provision of safe and ethical patient care
- Apply sonographic techniques and diagnostic criteria, appropriate to obstetric and breast ultrasound respectively, to produce and analyse limited examinations in a simulated environment.

## 2 Online Quizzes

### Assessment Type

Online Quiz(zes)

### Task Description

There are two (2) online quizzes to complete in this unit.

In Week 6, you will complete an online quiz to assess your understanding of the concepts delivered for weeks 1-5. The quiz can be accessed through the assessment tab on Moodle.

In Week 10, you will complete an online quiz to assess your understanding of the concepts delivered for weeks 6-9. The quiz can be accessed through the assessment tab on Moodle.

Both quizzes will comprise of multiple choice and matching questions, and are worth 10% each. Students will need to note opening and closing times to complete the quizzes during this time period.

Each quiz will be open for 30 mins and only ONE attempt is allowed. Once started, the quiz cannot be paused or restarted.

Questions will be drawn from a pool of questions to allow tests to be different for each student. This assessment is to be undertaken as an individual. As with all other university assessment, colluding with other students on non group work tasks is considered academic misconduct, and will be reported to the Academic Integrity Unit.

**Number of Quizzes**

2

**Frequency of Quizzes**

Other

**Assessment Due Date**

Quiz 1 due Friday 19/04/24 3pm AEST. Quiz 2 due Friday 17/5/24 3pm AEST

**Return Date to Students**

Quiz results will be released when all students have attempted the quiz.

**Weighting**

20%

**Minimum mark or grade**

50%

**Assessment Criteria**

Answers will be either correct or incorrect and tabulated by the unit's online Moodle system. Students must achieve a minimum mark of 50% to pass this assessment.

**Referencing Style**

- [Vancouver](#)

**Submission**

Online

**Learning Outcomes Assessed**

- Analyse normal and abnormal obstetric ultrasound findings with reference to embryology, clinical presentation, sonographic appearance and aetiology
- Analyse normal and abnormal breast ultrasound findings with reference to anatomy, clinical presentation, sonographic appearance, aetiology and correlation with other breast imaging modalities

## Examination

**Outline**

Complete an invigilated examination.

**Date**

During the examination period at a CQUniversity examination centre.

**Weighting**

50%

**Length**

180 minutes

**Minimum mark or grade**

50%

**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