



MEDS13001 *Obstetric and Breast Ultrasound*

Term 1 - 2022

Profile information current as at 17/05/2024 04:47 pm

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 building on breast ultrasound foundations which were created in MEDS12003. 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 culminates in the creation of 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: MEDS12003 Superficial Structures in Ultrasound and 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 - 2022

- Brisbane
- Mackay
- Melbourne
- Perth
- 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: 40%

2. **Online Quiz(zes)**

Weighting: 20%

3. **In-class Test(s)**

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 Student communication and unit evaluation surveys

Feedback

Students valued the emphasis on clinical reasoning and image interpretation.

Recommendation

Continue utilising the interactive tutorial content and incorporation of image interpretation throughout the unit.

Feedback from Self reflection

Feedback

The in-class test provided students with adequate time to demonstrate their knowledge and understanding of the topics

Recommendation

Continue to utilise the in-class test as an assessment item to ensure students can demonstrate their level of knowledge within an adequate timeframe.

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
1 - Practical and Written Assessment - 40%				•	•
2 - In-class Test(s) - 40%	•	•	•	•	
3 - Online Quiz(zes) - 20%	•	•			

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 - Practical and Written Assessment - 40%	•	•	•	•		•		•		
2 - In-class Test(s) - 40%	•	•					•	•		
3 - Online Quiz(zes) - 20%	•	•	•							

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: 2nd (2020)

Authors: Beth Kline-Fath

Wolters Kluwer Health

ISBN: 197511700X

Binding: eBook

Additional Textbook Information

Whilst there is no prescribed textbooks for this unit, some supplementary textbooks are listed which may provide additional resources for content covered. All required content will be delivered in lectures/tutorials.

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

Paula Kinnane Unit Coordinator

p.kinnane@cqu.edu.au

Schedule

Week 1 - 07 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
<ul style="list-style-type: none">• Breast Anatomy• Ultrasound (US) Appearance of Normal Breast Tissue	Content provided in lectures and reading items on Moodle page.	COMPULSORY Online Safety Induction to be completed prior to 9 March 2021. Zoom tutorial Thursday 11 am AEST.

Week 2 - 14 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
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- US Appearance of Breast Pathology
- Correlation of Breast US with Other Imaging Modalities

Content provided in lectures and reading items on Moodle page.

Zoom tutorial Thursday 11 am AEST.

Week 3 - 21 Mar 2022

Module/Topic

- Fetal Environment

Chapter

Content provided in lectures and reading items on Moodle page.

Events and Submissions/Topic

Formative Moodle Quiz.
Zoom tutorial Thursday 11 am AEST.

Week 4 - 28 Mar 2022

Module/Topic

- Fetal Biometry

Chapter

Content provided in lectures and reading items on Moodle page.

Events and Submissions/Topic

Zoom tutorial Thursday 11 am AEST.

Week 5 - 04 Apr 2022

Module/Topic

- Fetal Heart

Chapter

Content provided in lectures and reading items on Moodle page.

Events and Submissions/Topic

Formative Moodle Quiz.
Lab #1 Wednesday 6/04/2022.
Zoom tutorial Thursday 11 am AEST.

Vacation Week - 11 Apr 2022

Module/Topic

Chapter

Events and Submissions/Topic

Week 6 - 18 Apr 2022

Module/Topic

- Fetal Heart continued

Chapter

Content provided in lectures and reading items on Moodle page.

Events and Submissions/Topic

Lab #2 Wednesday 20/04/2022.
Zoom tutorial Thursday 11 am AEST.

Week 7 - 25 Apr 2022

Module/Topic

- Fetal Neural Tube Structures

Chapter

Content provided in lectures and reading items on Moodle page.

Events and Submissions/Topic

Zoom tutorial Thursday 11 am AEST.

Practical and written assessment
Due: Week 7 Friday (29 Apr 2022)
3:00 pm AEST

Week 8 - 02 May 2022

Module/Topic

- Fetal face, neck and chest

Chapter

Content provided in lectures and reading items on Moodle page.

Events and Submissions/Topic

Formative Moodle Quiz
Zoom tutorial Thursday 11 am AEST.

Week 9 - 09 May 2022

Module/Topic

- Fetal gastrointestinal, genitourinary and musculo-skeletal systems

Chapter

Content provided in lectures and reading items on Moodle page.

Events and Submissions/Topic

Zoom tutorial Thursday 11 am AEST.

Online quiz Due: Week 9 Tuesday
(10 May 2022) 12:00 pm AEST

Week 10 - 16 May 2022

Module/Topic

- Multiple pregnancies

Chapter

Content provided in lectures and reading items on Moodle page.

Events and Submissions/Topic

Zoom tutorial Thursday 11 am AEST.

Week 11 - 23 May 2022

Module/Topic

- Fetal anomalies and disorders

Chapter

Content provided in lectures and reading items on Moodle page.

Events and Submissions/Topic

Formative Moodle quiz.
Zoom tutorial Thursday 11 am AEST.

Week 12 - 30 May 2022

Module/Topic

Chapter

Events and Submissions/Topic

Review week.

On campus in-class test Due: Week
12 Thursday (2 June 2022) 12:00 pm
AEST

Review/Exam Week - 06 Jun 2022

Module/Topic	Chapter	Events and Submissions/Topic
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Exam Week - 13 Jun 2022

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

The unit coordinator is Paula Kinnane. Paula is based on the Brisbane campus and contact details are: email-pkinnane@cqu.edu.au or ph- 07 3023 4146.

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.

Please keep in mind that whilst Paula works full time, she also spends time in the labs. Paula is usually very responsive by email and can coordinate meetings if necessary.

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 worksheet practise
- 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 Thursdays at 11 am AEST. The schedule and link to tutorials is available on Moodle under the Virtual Classroom tile. Recordings will be available on the unit Moodle site.

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 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 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. Long femur
 - e. Placental location (to include cord insertion)
3. Static sonographic Images will be provided on the ultrasound machines in the CQU sonography labs. 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

Report pages (containing measurements for all components in item 3) and graphs (for images a, b, and c of item 3) 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
2. You will provide a reflective discussion on your imaging series for item 3. For each image submitted:
 - 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 reports and graphs you generated where appropriate.
 - discuss the key factors of image optimisation for each individual image (Do you do anything special to ensure this image is optimised? Do you need to adjust technical parameters or utilise practical skills to demonstrate the structure in a particular position?)

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 technique and evaluation of lesions.

Task Description

Practical component- Acquisition of video, images, and analysis of 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 and image it with appropriate optimisation, annotation, and body marker in two orthogonal planes.

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 (29 Apr 2022) 3:00 pm AEST

Return Date to Students

Week 9 Friday (13 May 2022)

Weighting

40%

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

Submission Instructions

Submit in Word.doc format to allow marker comments to be added

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.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Ethical practice

2 Online quiz

Assessment Type

Online Quiz(zes)

Task Description

In Week 9, you will complete an online quiz to assess your understanding of the concepts delivered for weeks 1-8. The quiz can be accessed through the assessment tab on Moodle.

It will comprise of short answer/multiple choice questions. Students will need to note opening and closing times to complete the quiz during this time period.

The quiz will be open for 60 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 may lead to action being taken.

Number of Quizzes

1

Frequency of Quizzes

Other

Assessment Due Date

Week 9 Tuesday (10 May 2022) 12:00 pm AEST

Quiz will be open until 2pm. You need to find a one (1) hour window within this time slot.

Return Date to Students

Marks will be available two weeks after all students have completed 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

Submission Instructions

Quiz will be conducted and submitted via Moodle

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

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking

3 On campus in-class test

Assessment Type

In-class Test(s)

Task Description

An in-class test will be conducted and completed on Thursday 2nd June at 12pm (AEST) (week 12), at your campus of enrolment.

The in-class test will be conducted as an online test via Moodle and will assess your understanding and learning of the content of this unit, and your ability to complete an ultrasound worksheet. Content assessed will include content covered

in lectures, tutorials, and readings from weeks 1-11.

The questions will involve a combination of short and long answer style questions which require typed answers. You will also be provided with a worksheet which will need to be completed and handed to supervisors at the conclusion of the test.

The test will last 140 minutes (2 hours 20 minutes). It will be closed book and supervised, and you will be required to adhere to test conditions. You will complete the test in computer labs on campus.

Any evidence of students not adhering to test conditions will be dealt with as per the CQUniversity academic misconduct procedure document.

You must know your student login to allow you to access university computers.

Assessment Due Date

Week 12 Thursday (2 June 2022) 12:00 pm AEST

Please note Perth Students starting time 10am (Local time)

Return Date to Students

Marks will be released within two weeks of all students completing the test

Weighting

40%

Minimum mark or grade

50%

Assessment Criteria

Responses to test questions will be assessed according to:

- Use of appropriate sonographic terminology and descriptors.
- Relevance of response to the question asked to appropriately identify normal and abnormal ultrasound findings with reference to anatomy, clinical presentation, sonographic appearance, and aetiology.
- Adequate detail provided in answer to demonstrate clinical awareness and critical thinking.

Referencing Style

- [Vancouver](#)

Submission

Online

Submission Instructions

Test will be conducted and submitted via Moodle

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
- Analyse clinical scenarios to provide a differential diagnosis and produce sonographic reports
- Formulate strategies for the provision of safe and ethical patient care

Graduate Attributes

- Communication
- Problem Solving
- 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