



# **MEDS13001 *Obstetric and Breast Ultrasound***

## **Term 1 - 2020**

Profile information current as at 17/05/2024 09:47 pm

All details in this unit profile for MEDS13001 have been officially approved by CQUUniversity and represent a learning partnership between the University and you (our student). The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

### Corrections

#### **Unit Profile Correction added on 02-04-20**

Assessment 1 has now been changed to an alternate form of assessment. Please see your Moodle site for details of the new assessment 1.

The end of term examination (Assessment 2) has now been changed to an alternate form of assessment. Please see your Moodle site for details of the replacement assessment

## 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 - 2020

- 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. **Examination**

Weighting: 60%

### Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the [University's Grades and Results Policy](#) for more details of interim results and final grades.

## CQUniversity Policies

**All University policies are available on the [CQUniversity Policy site](#).**

You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the [CQUniversity Policy site](#).

## Previous Student Feedback

### Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

#### Feedback from Unit evaluation / Unit coordinator self reflection

##### **Feedback**

The new breast content would benefit from some further lectures and learning resources

##### **Recommendation**

Revise and add to the content in the weeks dedicated to breast ultrasound (currently weeks 10 and 11).

#### Feedback from Unit evaluation

##### **Feedback**

Some students requested lab and content timing to be altered so that all content was delivered prior to labs

##### **Recommendation**

As the lab schedule is very tight, the days available can not easily be altered, however consideration should be given to moving the content weeks around to better match the lab availabilities.

## 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, appropriate to obstetric and breast ultrasound respectively, to produce 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

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

### Alignment of Assessment Tasks to Learning Outcomes

| Assessment Tasks                           | Learning Outcomes |   |   |   |   |
|--------------------------------------------|-------------------|---|---|---|---|
|                                            | 1                 | 2 | 3 | 4 | 5 |
| 1 - Practical and Written Assessment - 40% | •                 | • |   |   | • |
| 2 - Examination - 60%                      | •                 | • | • | • |   |

### 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 - Examination - 60%                      | •                   | • |   |   |   |   | • | • |   |    |

## Textbooks and Resources

### Textbooks

MEDS13001

#### Supplementary

##### **Before We Are Born, Essentials of Embryology and Birth Defects**

Edition: 9th (2016)

Authors: Moore, KL, Persaud, TVN, & Torchia MG

Elsevier

Philadelphia , PA , USA

ISBN: 9780323313377

Binding: Paperback

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#### Supplementary

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

Edition: 6th (2017)

Authors: Mary E. Norton, Leslie M. Scoutt, Vickie A. Feldstein

Elsevier

Philadelphia , PA , USA

ISBN: 978-0-323-32834-0

Binding: Hardcover

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#### Supplementary

##### **Textbook of Diagnostic Sonography**

Edition: 8th (2018)

Authors: Hagen-Ansert, S

Elsevier

Philadelphia , PA , USA

ISBN: 9780323353755

Binding: Hardcover

#### Additional Textbook Information

Copies are available for purchase at the CQUni Bookshop here: <http://bookshop.cqu.edu.au> (search on the Unit code)

### 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](mailto:p.kinnane@cqu.edu.au)

## Schedule

**Week 1 - 09 Mar 2020**

| Module/Topic                                            | Chapter                                                       | Events and Submissions/Topic                                                                                   |
|---------------------------------------------------------|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Breast Anatomy<br>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 10 March 2020<br>Zoom tutorial Thursday 10 am AEST |

**Week 2 - 16 Mar 2020**

| Module/Topic                                                                                | Chapter                                                       | Events and Submissions/Topic      |
|---------------------------------------------------------------------------------------------|---------------------------------------------------------------|-----------------------------------|
| US Appearance of Breast Pathology<br>Correlation of Breast US with Other Imaging Modalities | Content provided in lectures and reading items on Moodle page | Zoom tutorial Thursday 10 am AEST |

**Week 3 - 23 Mar 2020**

| Module/Topic      | Chapter                                                       | Events and Submissions/Topic                                                              |
|-------------------|---------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Fetal Environment | Content provided in lectures and reading items on Moodle page | Formative Moodle Quiz<br>Lab #1 Wednesday 25/03/2020<br>Zoom tutorial Thursday 10 am AEST |

**Week 4 - 30 Mar 2020**

| Module/Topic   | Chapter                                                       | Events and Submissions/Topic      |
|----------------|---------------------------------------------------------------|-----------------------------------|
| Fetal Biometry | Content provided in lectures and reading items on Moodle page | Zoom tutorial Thursday 10 am AEST |

**Week 5 - 06 Apr 2020**

| Module/Topic | Chapter                                                       | Events and Submissions/Topic                               |
|--------------|---------------------------------------------------------------|------------------------------------------------------------|
| Fetal Heart  | Content provided in lectures and reading items on Moodle page | Formative Moodle Quiz<br>Zoom tutorial Thursday 10 am AEST |

**Vacation Week - 13 Apr 2020**

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

**Week 6 - 20 Apr 2020**

| Module/Topic          | Chapter                                                       | Events and Submissions/Topic                                                  |
|-----------------------|---------------------------------------------------------------|-------------------------------------------------------------------------------|
| Fetal Heart continued | Content provided in lectures and reading items on Moodle page | Mock Exam<br>Lab #2 Wednesday 22/04/2020<br>Zoom tutorial Thursday 10 am AEST |

**Week 7 - 27 Apr 2020**

| Module/Topic                 | Chapter                                                       | Events and Submissions/Topic      |
|------------------------------|---------------------------------------------------------------|-----------------------------------|
| Fetal Neural Tube Structures | Content provided in lectures and reading items on Moodle page | Zoom tutorial Thursday 10 am AEST |

**Week 8 - 04 May 2020**

| Module/Topic               | Chapter                                                       | Events and Submissions/Topic                                     |
|----------------------------|---------------------------------------------------------------|------------------------------------------------------------------|
| Fetal face, neck and chest | Content provided in lectures and reading items on Moodle page | Lab #3 Wednesday 08/05/2019<br>Zoom tutorial Thursday 10 am AEST |

**Week 9 - 11 May 2020**

| Module/Topic                                                       | Chapter                                                       | Events and Submissions/Topic                                                                                                                                  |
|--------------------------------------------------------------------|---------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fetal gastrointestinal, genitourinary and musculo-skeletal systems | Content provided in lectures and reading items on Moodle page | Formative Moodle Quiz<br>Zoom tutorial Thursday 10 am AEST<br><br><b>Ultrasound Images and Discussion</b><br>Due: Week 9 Wednesday (13 May 2020) 9:00 am AEST |

**Week 10 - 18 May 2020**

| Module/Topic         | Chapter                                                       | Events and Submissions/Topic      |
|----------------------|---------------------------------------------------------------|-----------------------------------|
| Multiple pregnancies | Content provided in lectures and reading items on Moodle page | Zoom tutorial Thursday 10 am AEST |

**Week 11 - 25 May 2020**

| Module/Topic                  | Chapter                                                       | Events and Submissions/Topic                               |
|-------------------------------|---------------------------------------------------------------|------------------------------------------------------------|
| Fetal anomalies and disorders | Content provided in lectures and reading items on Moodle page | Formative Moodle quiz<br>Zoom tutorial Thursday 10 am AEST |

**Week 12 - 01 Jun 2020**

| Module/Topic | Chapter | Events and Submissions/Topic      |
|--------------|---------|-----------------------------------|
| Review week  |         | Zoom tutorial Thursday 10 am AEST |

**Review/Exam Week - 08 Jun 2020**

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

**Exam Week - 15 Jun 2020**

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

## Term Specific Information

My name is Paula Kinnane and I am the unit co-ordinator for MEDS13001. Following on from a background in radiography, I have been a qualified sonographer for 20 years and worked in a number of environments (both specialised and general) in both public and private settings. Since 2006, I have been a specialist sonographer in women's and newborn imaging where I performed both routine and tertiary scans for gynaecological, breast and obstetrics imaging, including multiple pregnancies and fetal echocardiography. I have been employed at CQU since 2015. I am involved in various voluntary roles with the Australasian Sonographer's Association (ASA) and present at many conferences. I was recently awarded an Associate Fellowship by the ASA, in recognition of my achievements and service to the profession.

I am based on Brisbane campus and my contact details are:

email- p.kinnane@cqu.edu.au

Ph- 07 3023 4146

Please keep in mind that whilst I am full time, I do spend time in the labs.

I am usually very responsive by email (during business hours) and can coordinate meetings if necessary.

Whilst there is no set textbook for this unit, some suggestive textbooks which may be useful to refer to and supplement your lectures include:

CALLEN'S Ultrasonography in Obstetrics and Gynaecology ISBN:9780323328340

RUMACK Diagnostic Ultrasound 2 Vol set ISBN:9780323401715

HAGEN-ANSERT Diagnostic Sonography ISBN: 9780323353755

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
- Creating study notes to meet weekly learning objectives using lectures and readings
- Researching and working on your assessment
- Completing formative and mock exam questions.

Lab time is made available (weeks 3, 6 and 8) to obtain images to complete the written assessment.

Attendance at tutorials is recommended (recordings of these will be made available on Moodle).

Discussions about unit content, assessment and the exam are provided in the tutorials. Tutorials are held on Thursdays at 10 am AEST. The schedule is available on Moodle.

## Assessment Tasks

### 1 Ultrasound Images and Discussion

**Assessment Type**

Practical and Written Assessment

**Task Description**

This assessment item is designed to allow you to solve clinical problems in a sonographic context and critically evaluate the method of obtaining images and critique your produced images.



This will be based around the following components:

### **Practical component - Acquisition of images**

#### **Part A**

Using the 2nd trimester obstetric phantoms in the CQU sonography lab, you will personally acquire the following relevant and appropriately optimised images:

1. Placental location / cord insertion
2. Fetal situs and lie (split screen)
3. Bi-parietal diameter (BPD) / head circumference (HC)
4. Abdominal circumference (AC)
5. Femoral length (FL)
6. 4 Chamber Heart (4CH)
7. Aortic root / left ventricular outflow tract (LVOT)
8. Pulmonary artery root / right ventricular outflow tract (RVOT)

ONE image only from each of 1 - 8 above are submitted.

Multiple measurements of parameters should be performed and this will be evident in the report page data.

Report pages and graphs (as relevant to the above listed images) are to be included in the submission.

#### **Part B**

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

1. A short video including audio (using smart phone or similar) demonstrating how to perform cross hatch survey scanning technique (maximum 3 minutes)
2. A short video including audio demonstrating how to perform radial and anti-radial survey scanning technique (maximum 3 minutes)
3. 4 x o'clock US images taken at 12, 3, 6 and 9 positions, appropriately optimised, annotated and using body marker
4. Choose ONE lesion within the breast phantom and image it with appropriate optimisation, annotation and body marker in TWO orthogonal planes

### **Written component - Discussion of image series**

You will provide a reflective discussion on your imaging series (1500 words total).

#### **Part A**

For EACH image submitted:

- discuss the clinical purpose or importance of each image and/or measurement (Why do we take the image/measurement? How is the information used clinically?). *Include citations/referencing for this section as required.*
- critique the image quality (specifically any aspects needing improvement)
- summarise any difficulties encountered (If it was challenging, why? Do you think it would be different on a patient compared to the phantom? Would there be different challenges on a live fetus?).
- provide suggestions for future improvement when you next attempt this in a clinical setting (be specific and reflective in your thoughts).

#### **Part B**

For the images of your chosen lesion ONLY:

- critique the image quality (specifically any aspects needing improvement)
- describe the lesion using sonographic terminology (appearance, size, location, etc)
- based on the appearances of the lesion you have chosen, state the BIRADS classification and justify why you have classified it at this level.

### **Referencing**

Referencing is a vital component of any academic work and plagiarism is taken seriously by the university. Please refer to the *Academic Misconduct Procedure* available on the [IMPortal available HERE](#).

Please ensure you adhere to the Vancouver referencing style.

### **Assessment Due Date**

Week 9 Wednesday (13 May 2020) 9:00 am AEST

Upload submissions to Moodle

### **Return Date to Students**

Week 11 Wednesday (27 May 2020)

**Weighting**

40%

**Minimum mark or grade**

50%

**Assessment Criteria*****Practical component - Acquisition of images***

Your images will be assessed for:

- optimisation
- scan plane
- accurate measurement/s
- annotation
- use of ultrasound machine features (zoom, chroma maps, split screen, etc)

***Written component - Discussion of image series***

Your discussion will be assessed on:

- spelling, grammar, academic writing
- referencing
- adherence to word count (word count marks not allocated if too brief or too lengthy; additional words will not be assessed)

As well as the following:

***Part A***

- justification of clinical relevance of images/reports/graphs
- quality of critique on image quality
- reflection of difficulties encountered in the acquisition process
- suggestions for improvement in a clinical setting

***Part B***

- correct demonstration of scanning technique
- quality of critique on image quality
- accuracy of description
- knowledge of basic lesion characterisation

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

- Marking rubric
- Assessment Video
- Exemplars of previous submissions
- Vancouver referencing information

**Referencing Style**

- [Vancouver](#)

**Submission**

Online

**Submission Instructions**

Submit in word doc so that marker comments can be added

**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
- Apply sonographic techniques, appropriate to obstetric and breast ultrasound respectively, to produce limited examinations in a simulated environment.

**Graduate Attributes**

- Communication
- Problem Solving
- Critical Thinking

- Information Literacy
- Information Technology Competence

## Examination

### **Outline**

Complete an invigilated examination.

### **Date**

During the examination period at a CQUniversity examination centre.

### **Weighting**

60%

### **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