



MEDS11001 *Fundamentals of Ultrasound* Practice Term 1 - 2018

Profile information current as at 20/04/2024 11:27 pm

All details in this unit profile for MEDS11001 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 provides an insight into Medical Ultrasound by exploring the role and global scope of practice of the medical sonographer and echocardiographer, the use of ultrasound in medical imaging, the types of examinations available and the provision of safe patient care as an allied health professional. The aim of this unit is to provide introductory knowledge and skills that will support your learning throughout the Medical Sonography or Echocardiography course. Simulation exercises will enable you to apply theory to practice.

Details

Career Level: *Undergraduate*

Unit Level: *Level 1*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

There are no requisites for this unit.

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 - 2018

- 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 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. **Written Assessment**

Weighting: 40%

2. **Practical Assessment**

Weighting: Pass/Fail

3. **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 Current UC

Feedback

Feedback from students was unavailable at the time of writing this AUER and the UC has left the university.

Recommendation

This is a 3 year old AUER. Since 2017, the entire unit has been re-written and considerable improvements undertaken. The satisfaction scores have improved in 2019.

Unit Learning Outcomes

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

1. Discuss the Australian Health Care System and how it relates to the provision of diagnostic imaging services.
2. Discuss the role and scope of practice of the medical sonographer and echocardiographer, including professional and legal frameworks.
3. Apply knowledge of ultrasound equipment, transducer / patient positioning and sonographic image appearance using appropriate medical and sonographic terminology.
4. Discuss the role of diagnostic medical ultrasound and how it relates to other diagnostic imaging modalities and picture archiving communication systems.
5. Demonstrate sonographic manual skill development in a simulated environment.

This unit will be one of the core units in the Medical Sonography Courses which is externally accredited by the Australian Sonographers Accreditation Registry, an external professional regulatory body. This unit introduces students to the foundational knowledge and skills of Medical Sonography and enables an appreciation of the use of ultrasound in a national and international context and in the context of the other diagnostic imaging technologies available. The professional body entry level competencies of the accredited sonographer include consideration of safe practice and professional behavior.

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 - Written Assessment - 40%	•	•		•	
2 - Practical Assessment - 0%			•		•
3 - 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 - Written Assessment - 40%	•	•	•	•			•	•		
2 - Practical Assessment - 0%	•	•	•			•		•		
3 - Examination - 60%	•	•						•		

Textbooks and Resources

Textbooks

MEDS11001

Supplementary

Essentials of Sonography and Patient Care

Edition: 3rd (2012)

Authors: Craig, M

Elsevier Saunders

St Louis , USA

ISBN: 9781437735451

Binding: Other

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Supplementary

Mastering Medical Terminology Australia and New Zealand

Edition: 2nd (2016)

Authors: Walker, S., Wood., M, & Nicol J

Elsevier Australia

Chatswood , Australia

ISBN: 9780729542401

Binding: Other

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Supplementary

Mosby Pocket Dictionary of Medicine , Nursing & Health Professions

Edition: 10th (2016)

Authors: Mosby

Elsevier - Health Sciences Division

ISBN: 9780323222051

Binding: Other

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Supplementary

Patient Centred Care in Medical Imaging and Radiotherapy.

Edition: 2013 (2013)

Authors: Ramlaul, A., & Vosper, M (Eds)

Churchill Livingstone Elsevier

Edinburgh , Scotland

ISBN: 9780702046131

Binding: Other

[View textbooks at the CQUniversity Bookshop](#)

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: [American Psychological Association 6th Edition \(APA 6th edition\)](#)

For further information, see the Assessment Tasks.

Teaching Contacts

Erika Gosney Unit Coordinator
e.gosney@cqu.edu.au

Schedule

Week 1 - 05 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Unit Introduction Introduction to Referencing Introduction to the Medical Imaging Department		

Week 2 - 12 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
The History of Ultrasound The Australian Health Care System Sonography		

Week 3 - 19 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Sonographic / Echocardiographic & Medical Terminology Patient Positioning in Sonography Scan Planes in Sonography		

Week 4 - 26 Mar 2018

Module/Topic	Chapter	Events and Submissions/Topic
Communication Patient Care Infection Control		

Week 5 - 02 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
Manual Handling Ergonomics		

Vacation Week - 09 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 16 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
Ultrasound Physics Image Generation		Written Assessment Due: Week 6 Monday (16 Apr 2018) 5:00 pm AEST

Week 7 - 23 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
The Ultrasound Machine The Ultrasound Examination		

Week 8 - 30 Apr 2018

Module/Topic	Chapter	Events and Submissions/Topic
Diagnostic Examinations in Sonography		

Week 9 - 07 May 2018

Module/Topic	Chapter	Events and Submissions/Topic

Residential School (**compulsory**)

Week 10 - 14 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
Diagnostic Examinations in Sonography (continued)		

Week 11 - 21 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
Medico-Legal Issues in Health Care		

Week 12 - 28 May 2018

Module/Topic	Chapter	Events and Submissions/Topic
Revision Exam Preparation		

Review/Exam Week - 04 Jun 2018

Module/Topic	Chapter	Events and Submissions/Topic
		Written Exam - this week <u>or</u> next (refer to examination timetable - when released). The examination will contain some questions labelled as specific to either Sonography or Echocardiography (answer the questions appropriate to your stream where a choice exists).

Exam Week - 11 Jun 2018

Module/Topic	Chapter	Events and Submissions/Topic
		Written Exam - last week <u>or</u> this week (refer to examination timetable - when released). The examination will contain some questions labelled as specific to either Sonography or Echocardiography (answer the questions appropriate to your stream where a choice exists).

Term Specific Information

This unit has a mandatory on-campus residential school in Week 9 for 2 full days.

Sonography students must attend the residential school at your enrolled campus only.

Students must adhere to a specific dress code while attending residential school. Detailed information regarding the dress code will be made available on the unit Moodle site.

Echocardiography students will not complete this unit in 2018 so materials relevant to echocardiographers alone have been removed. Items on echocardiography that is of interest to general sonographers is still included.

The coordinator for this unit is Erika Gosney. I can be contacted at e.gosney@cqu.edu.au or telephone 03 9616 0520. During the term I may be teaching or off campus. For this reason email is the preferred method of initial contact.

Assessment Tasks

1 Written Assessment

Assessment Type

Written Assessment

Task Description

TASK DESCRIPTION

You are required to complete a written assessment based on lecture material, tutorials and relevant material provided on the unit Moodle site. In addition to the unit materials provided, you must research current literature in order to discuss and respond to each question/topic.

Question 1:

What is plagiarism?

Include in your response: a) a list, and description, of the 4 different types of plagiarism as mentioned in the referencing lecture; and b) a brief discussion on various ways to avoid being accused of plagiarism.

Question 2:

Why is it safe to stand beside a patient undergoing a medical ultrasound examination, but unsafe to stand beside a patient undergoing a medical CT examination?

Explain your answer, referring to the physics involved in acquiring images for each modality, and the electromagnetic spectrum.

Question 3:

Research and compare the differences between the sonography organisations, which use the acronyms, ASA and ASAR. Include a brief discussion on sonographer registration in your response.

Question 4:

Medicare is the Federal Government health insurance system managed by the Department of Human Services. Explain Medicare using the following headings:

1. Medicare Levy
2. Medicare Benefits Schedule; and the
3. Medicare Safety Net

Length: 2,000 words (+/- 10%) Any words over the word count will not be marked. Reference list and figure captions are excluded.

Presentation: Inherent requirement is that it is written in good English, and free of grammatical and spelling errors. Your assessment should be submitted as a Word document with 1.5 line spacing in 12 point Arial font. Referenced figures are encouraged.

Referencing: Your answers to each question must be supported by references. You are expected to research each question and to use references that have, and have not, been provided to you. You should use a minimum of 3 references per question. A reference list must be provided and the CQU Sonography hybrid numbered APA referencing style must be used throughout your assessment. Ensure that your assessment is accurately referenced. References should clearly show where your information was obtained. Refer to the unit Moodle page and the CQU general website for further information. A minimum of 6 contemporary journal articles (less than 10 years old) must be used as references (additional to those provided on the the unit Moodle page) for this assessment. Only 1 numbered reference list in CQU Sonography hybrid numbered APA format should be provided for the whole assessment. Do not include separate reference lists for each question.

**Further detailed assessment guidelines and marking criteria will be made available on the Moodle site.

Assessment Due Date

Week 6 Monday (16 Apr 2018) 5:00 pm AEST

Return Date to Students

Week 9 Friday (11 May 2018)

Weighting

40%

Assessment Criteria

You will be assessed on the following criteria:

- Overall presentation of assignment including structure of assignment; accuracy of spelling and grammar; correct use of medical and sonographic terminology; appropriateness of literature reviewed; correct and accurate referencing; academic writing and expression.
- Clear and concise responses to each specific question/topic, including relevant and appropriate discussion and analysis of each topic with reference to current literature.

A detailed marking rubric/criteria will be made available on the unit Moodle site.

Referencing Style

- [American Psychological Association 6th Edition \(APA 6th edition\)](#)

Submission

Online

Submission Instructions

Online submission via unit Moodle site

Learning Outcomes Assessed

- Discuss the Australian Health Care System and how it relates to the provision of diagnostic imaging services.
- Discuss the role and scope of practice of the medical sonographer and echocardiographer, including professional and legal frameworks.
- Discuss the role of diagnostic medical ultrasound and how it relates to other diagnostic imaging modalities and picture archiving communication systems.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Cross Cultural Competence
- Ethical practice

2 Practical Assessment

Assessment Type

Practical Assessment

Task Description

TASK DESCRIPTION

During your attendance at the 2 day compulsory residential school you will participate in practical activities, where you will observe, learn and practice techniques and skills relating to the sonography profession.

Following participation in these activities, you will be assessed on your ability to perform practical sonographic tasks relating to:

- 1) Patient care and communication; and
- 2) Body planes, ultrasound scanning planes and associated image recognition.

100% attendance for the 2 full days of the residential school is mandatory.

You must attend the residential school at your enrolled campus only.

You will be automatically allocated to this campus, and appropriate staffing/resource arrangements will be made at that location.

You must pass the practical assessment in order to pass the unit.

Failure to attend the full 2 day residential school will mean that you will not pass this unit.

One re-sit of the practical assessment will be permitted.

Detailed information and a marking criteria will be made available on the unit Moodle site.

As per the Assessment Policy and Procedure (Higher Education Coursework), Section 4: Assessment Procedure: Item 4.59, this assessment is considered a professional assessment task and has an absolute submission date. This assessment must be completed on the final day of the residential school in the absence of an approved extension.

Assessment Due Date

The practical assessment will take place on the final day of the 2 day residential school. Any re-sits will also be conducted on the final day of the residential school.

Return Date to Students

Week 10 Friday (18 May 2018)

Your practical assessment result will be posted in your Gradebook on the unit Moodle site.

Weighting

Pass/Fail

Minimum mark or grade

100% attendance for the full 2 day residential school is required, along with a pass grade in the practical assessment.

Assessment Criteria

ASSESSMENT CRITERIA

The practical assessment will be conducted by a sonography lecturer or tutor, who will observe and assess your ability to carry out practical skills relating to:

- 1) Patient care and communication; and
- 2) Body planes, ultrasound scanning planes and associated image recognition.

Assessment of each task will be relative to the practical assessment marking criteria, which will be made available on

the unit Moodle site.

You must pass the practical skills test in order to pass the practical assessment.

Referencing Style

- [American Psychological Association 6th Edition \(APA 6th edition\)](#)

Submission

Offline

Learning Outcomes Assessed

- Apply knowledge of ultrasound equipment, transducer / patient positioning and sonographic image appearance using appropriate medical and sonographic terminology.
- Demonstrate sonographic manual skill development in a simulated environment.

Graduate Attributes

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

Examination

Outline

Complete an invigilated examination.

Date

During the examination period at a CQUniversity examination centre.

Weighting

60%

Length

120 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