MEDS13007 *Musculoskeletal Sonography*

Term 1 - 2020

Profile information current as at 02/05/2024 08:58 am

All details in this unit profile for MEDS13007 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.

Corrections

Unit Profile Correction added on 30-03-20

The end of term examination has now been changed to an alternate form of assessment. Further details about the assessment will be made available on Moodle in due course.

Unit Profile Correction added on 30-03-20

The Residential School for this unit has been postponed and you will need to complete this at a later date. Further details about the residential school will be made available on Moodle in due course.

General Information

Overview

This unit introduces you to musculoskeletal ultrasound. In the unit you will acquire knowledge of the anatomy, pathophysiology, sonographic appearance, scanning protocols and techniques relevant to the musculoskeletal system. You will demonstrate problem solving strategies to formulate differential diagnoses and produce a sonographic report. You will plan for the provision of safe and ethical patient care.

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

Prerequisites: MEDS12001 Physics of Ultrasound AND MEDS12003 Superficial Structures in Ultrasound ANDMEDS12004 Sonographic Skills Development 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).

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 Through unit Moodle site.

Feedback
Examination time insufficient to fully complete examination.

Recommendation
Increase examination from two to three hours.

Feedback from Through unit Moodle site.

Feedback
Students appreciated being able to ask questions and seek clarification during Zoom tutorials.

Recommendation
Continue to focus upon the positive aspects of the student responses to questions in order to foster student engagement during Zoom tutorial sessions.

Unit Learning Outcomes

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

1. Describe musculoskeletal anatomy and body mechanics.
2. Differentiate the variance of normal and abnormal sonographic appearances of the musculoskeletal system.
3. Perform sonographic techniques and protocols appropriate to musculoskeletal ultrasound image generation.
4. Analyse clinical scenarios to provide a differential diagnosis and produce a sonographic report.
5. Formulate strategies for the provision of safe and ethical patient care.

The learning outcomes for this unit have been linked to:
ASAR Required Graduate Competency Outcomes for General Sonography Accreditation Standards 1.2.
1,2,3,4, 5 and 9

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

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 - Examination - 60%	•	•	•	•						
3 - Practical Assessment - 0%	•	•	•		•			•		

Textbooks and Resources

Textbooks

MEDS13007

Prescribed

Fundamentals of Musculoskeletal Ultrasound
Edition: 3rd (2017)
Authors: Jon A Jacobson
Elsevier
Atlanta , Georgia , United States
ISBN: 9780323445252
Binding: Paperback

Additional Textbook Information
Each copy of the prescribed text contains a unique login code to the Elsevier online learning resource containing videos and additional images related to the unit learning outcomes. Copies are available for purchase at the CQUni Bookshop here: http://bookshop.cqu.edu.au (search on the Unit code)
However, the textbook login code may only be redeemed once and as a result purchase of second hand copies of the text may not permit access to the Elsevier online learning resource..

View textbooks at the CQUniversity Bookshop

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Web camera and microphone to join on line sessions

Referencing Style

All submissions for this unit must use the referencing style: Vancouver
For further information, see the Assessment Tasks.

Teaching Contacts

Mina Shenouda Unit Coordinator
m.shenouda@cqu.edu.au

Schedule

Week 1 - 09 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
The Basics of Musculoskeletal (MSK) Ultrasound.	Chapter 1 of prescribed text. **Fundamentals of Musculoskeletal Ultrasound** 3rd edition (2017), Jon A Jacobson ISBN 9780323445252	Zoom tutorial Thursday. Lab induction to be completed on-line. **Please note the time difference in your designated state.**

Week 2 - 16 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
Common Pathologies.	Chapter 2 of prescribed text.	Zoom tutorial Thursday.

Week 3 - 23 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
The Shoulder.	Chapter 3 of prescribed text.	Zoom tutorial Thursday.

Week 4 - 30 Mar 2020

Module/Topic	Chapter	Events and Submissions/Topic
The Elbow.	Chapter 4 of prescribed text.	Zoom tutorial Thursday. All day residential school Monday 30th of March. Residential school practical assessment due Monday 30th of March. **In Lab Practical Assessment** Due: Week 4 Monday (30 Mar 2020) 3:30 pm AEST

Week 5 - 06 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
The Wrist Part One	Chapter 5 of prescribed text.	Zoom tutorial Thursday.

Vacation Week - 13 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 20 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
The Wrist Part Two.	Chapter 5 of prescribed text.	Zoom tutorial Thursday.

Week 7 - 27 Apr 2020

Module/Topic	Chapter	Events and Submissions/Topic
The Ankle.	Chapter 8 of prescribed text.	Zoom tutorial Thursday. Written assignment due Friday 1st of May. Residential school all day Wednesday 29th of April. Second attempt at practical assessment due if initial assessment unsuccessful in week 4. **Written Assessment** Due: Week 7 Friday (1 May 2020) 1:30 pm AEST

Week 8 - 04 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
The Knee.	Chapter 7 of prescribed text.	Zoom tutorial Thursday.

Week 9 - 11 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
The Hip and Thigh.	Chapter 6 pp 223-276 of prescribed text.	Zoom tutorial Thursday.

Week 10 - 18 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Hernia Sonography.	Chapter 6 pp 276-280 of prescribed text.	Zoom tutorial Thursday.

Week 11 - 25 May 2020

Module/Topic	Chapter	Events and Submissions/Topic
Interventional Techniques.	Chapter 9 of prescribed text.	Zoom tutorial Thursday.

Week 12 - 01 Jun 2020

Module/Topic	Chapter	Events and Submissions/Topic
Revision week.		Zoom tutorial Thursday.

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

Welcome to MEDS13007 Musculoskeletal Ultrasound, My name is Mina Shenouda and I will be the unit coordinator. My availability throughout the term will be on Monday, Tuesday and Thursday. Please utilise the forums on the unit Moodle site for any questions relating to the unit content or assessment items. If you have a query of a personal nature, you may contact me via email on m.shenouda@cqu.edu.au.
Each week the Moodle site will be devoted to a different aspect of this specialty sonographic field as outlined in the schedule section of the e-profile. In addition to the readings, lectures and revision questions, it is expected that you will attend the weekly Zoom tutorial sessions with the times outlined on the Moodle site. While Zoom tutorial sessions will be recorded, these recordings are not a substitute for active participation as I find students develop a deeper understanding of the unit content and will be able to effectively interact with other health professionals in the medical field if they attend Zoom sessions rather than watching recordings. To attain a pass grade in this unit, students must meet minimum marks specified in each assessment task and an overall grade of 50% or greater.

As part of this unit there are three assessment tasks;
1. Practical assessment during Residential School Monday of week 4.
2. Written assessment due Friday of week 7.
3. Final examination held during the examination period at the end of term 1.
Please note further information related to the practical and written assessment is available on the Moodle site and will be addressed within the Zoom Tutorial in week 1.

Students are reminded that it is a requirement of the university that they must complete the on-line lab Induction material and successfully answer the questions in order to be able to participate in the compulsory Residential School component of this unit. This is the same lab induction material you are required to complete for MEDS13002 Sonographic skills development 2 and must be done to participate in any lab-based components required in this unit. This lab induction task must be completed each year, having attended a lab induction on previous years will not exclude you from having to complete a lab induction this year. Please note failure to complete the lab induction will mean that you are unable to complete the practical assessment component of this unit thereby failing the unit overall.

Assessment Tasks

1 Written Assessment

Assessment Type
Written Assessment

Task Description
To complete this unit, a written assessment task is required to be submitted. The written assessment aims to assess your theoretical and technical knowledge concerning musculoskeletal sonography. Aspects related to image interpretation, communication and the clinical application of sonography in **either** the shoulder or elbow will be assessed.

The assessment will involve answering questions related to **either** shoulder or elbow sonography. This assessment task will require you to answer four questions related to the practical and theoretical application of sonography in the region you have chosen. Questions will assess your understanding of musculoskeletal sonographic image interpretation, scan protocol, spatial understanding and the clinical applications of musculoskeletal sonography.

Please note when describing images, sonographic terminology must be used, for example, terms such as 'white' or 'black' should be replaced with 'hyperechoic' and 'anechoic'. All image labelling should be done by you, it is not acceptable to include pre-labelled images as this constitutes plagiarism. Image descriptions should be clear and concise, keeping in mind that you are trying to communicate an abnormal finding succinctly to another health care professional, hence the use of terminology appropriate to a health care setting. The assignment word limit is 1500 +/- 10% with marks being allocated for remaining within the word limit, correct referencing, figure/table descriptions and section

headings. Referencing, figures/table descriptions and section headings are not included in the word count.

Further information related to this assessment can be found on the Moodle site, with an outline of the assessment being provided during the Week 1 Zoom tutorial.

Assessment Due Date
Week 7 Friday (1 May 2020) 1:30 pm AEST
Submit via Turnitin.

Return Date to Students
Week 9 Wednesday (13 May 2020)
Posted in Gradebook.

Weighting
40%

Minimum mark or grade
50%

Assessment Criteria
The assessment task will be comprised of four questions with marks being awarded for each question as outlined below:
a. Describe, using sonographic terminology, what abnormalities of the shoulder/elbow are being depicted and explain and justify your answer. (25 marks)

b. Indicate five sonographic views which are included as part of a routine shoulder/elbow examination. (5 marks)

c. For the above views you have specified in part b, include images depicting ultrasound probe placement on the patient and the anatomy being displayed on each image. Please note the anatomy you have mentioned must be accurately indicated on the images by yourself. (20 marks)

d. Describe 3 abnormalities which can be assessed utilizing ultrasound (based upon your assessment task region). Please note each abnormality indicated must include at least 3 peer-reviewed references supporting the assessment of the abnormality you have specified. Please note different references must be used for each of the 3 abnormalities specified. (30 marks)
Your assignment will be assessed on;
1. The accuracy of your image descriptions and the justification of normal and abnormal findings you discussed using appropriate sonographic terminology.
2. The appropriateness of the sonographic views you select.
3. Sonographic images accurately correlating with your specified sonographic views, the accuracy and clarity of anatomical structures you indicate on the sonographic images and ultrasound probe placement accuracy.
4. The appropriateness of the shoulder or elbow clinical conditions you have selected i.e. can the clinical conditions discussed relate to the body region selected and can they be appropriately detected and demonstrated effectively with sonographic imaging?
5. The quality and variety of academic references selected to support the clinical conditions you have selected.
Marks will be awarded for correct referencing (10 marks) and assignment mechanics such as cohesiveness, punctuation and academic writing (10 marks).
An assignment rubric will be made available, with further information being provided in the assessment overview recording in week 1 and during the first zoom tutorial. These can all be accessed on the Moodle site.

Referencing Style

- Vancouver

Submission
Online

Submission Instructions
Online via unit Moodle site.

Learning Outcomes Assessed

- Describe musculoskeletal anatomy and body mechanics.
- Differentiate the variance of normal and abnormal sonographic appearances of the musculoskeletal system.
- Perform sonographic techniques and protocols appropriate to musculoskeletal ultrasound image generation.
- Analyse clinical scenarios to provide a differential diagnosis and produce a sonographic report.
- Formulate strategies for the provision of safe and ethical patient care.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Cross Cultural Competence

2 In Lab Practical Assessment

Assessment Type
Practical Assessment

Task Description
During the residential school conducted on Monday of week 4, students are required, under the supervision of their tutor, to locate and then image the long head of biceps brachii tendon at the intertubercular groove. They will be assessed on correctly identifying the long head of biceps brachii tendon, with associated annotations. Students will also be assessed on how they conduct the examination in regards to patient care. This will be done by conducting a series of questions that will assess their knowledge This image and the series of questions will form the basis of the practical assessment with marks allocated based upon the provision of patient care and diagnostic quality of your image, taking into consideration imaging parameters such as; image plane, image depth, image gain and focal zone position. Students will save the image to the ultrasound unit, annotating the image with their name, student number and the date of assessment. Furthermore, during the residential school, you'll be shown the subacromial/subdeltoid bursa and the supraspinatus tendon by your supervising tutor.

Assessment Due Date
Week 4 Monday (30 Mar 2020) 3:30 pm AEST
Practical assessments will be held during the week 4 residential school with a resit chance being available during the second residential school held in week 7.

Return Date to Students
Week 4 Monday (30 Mar 2020)
Results posted in gradebook after moderation of the marks.

Weighting
Pass/Fail

Minimum mark or grade
A minimum mark of 5 out of 10 is required in order to pass this assessment. Any student who does not meet the the minimum requirement in week 4 will be eligible for one further attempt in week 7.

Assessment Criteria
This is a non-graded (pass/fail) assessment task being designed to examine students ability to implement patient safety and care. Also, students are marked on correctly interpreting sonographic anatomy and critically assessing the image they have generated with respect to equipment settings and anatomy displayed. You will be assessed on your ability to perform the following:
a. True short and long-axis images of the long head biceps brachii tendon
b. Appropriately optimised images
c. Correct identification of required structures to supervising tutor
d. Adequately describe a method to assess the stability of the long head of biceps tendon with consideration of patient history and clinical tests
A detailed marking rubric is available on week one of the Moodle site with further information related to the assessment outlined in the week one Zoom tutorial.

Referencing Style

- Vancouver

Submission
Offline

Submission Instructions
Assessed by your tutor during the week 4 residential school held in the sonography scanning labs with all practical results being provided to the unit coordinator for moderation and entering into the unit grade-book.

Learning Outcomes Assessed

- Perform sonographic techniques and protocols appropriate to musculoskeletal ultrasound image generation.
- Formulate strategies for the provision of safe and ethical patient care.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Team Work
- 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