



MEDS13007 Musculoskeletal Sonography

Term 1 - 2019

Profile information current as at 11/04/2024 06:50 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.

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 AND MEDS12004 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 - 2019

- 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. **Examination**

Weighting: 60%

3. **Practical Assessment**

Weighting: Pass/Fail

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

Feedback

Students would like further clarification of assignment expectations

Recommendation

Followup the initial assignment Zoom tutorial run in week one with a second assignment Zoom tutorial early in term.
Review assessment task wording.

Feedback from Student feedback posted on unit Moodle site.

Feedback

More tutors being present during the residential school would enhance residential school learning.

Recommendation

Investigate strategies to improve student/tutor ratio.

Feedback from By email and in class student feedback.

Feedback

Musculoskeletal scanning videos were beneficial.

Recommendation

Expand upon live scanning instructional videos incorporated into the unit Moodle site.

Feedback from Unit evaluation.

Feedback

Prescribed text was difficult to understand.

Recommendation

Investigate an alternative to the prescribed text.

Feedback from By email and in class student feedback.

Feedback

Weekly Zoom tutorials devoted to sonographic image recognition and sonographic report writing beneficial to student understanding.

Recommendation

Maintain a strong focus in Zoom tutorials upon sonographic image recognition and sonographic report writing.

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

The library has been able to purchase digital access to the prescribed text, however the links to video's do not work. This means that while you will have all the printed text and images you will need to purchase the prescribed text in order to access video content .In addition print copies of the prescribed text come with a digital access code which allows access to the authors videos referenced in the prescribed text. This code may only be redeemed once so if a used copy of the text is purchased you may not have access to the instructional videos associated with the prescribed text.

Copies can be purchased from the CQUni Bookshop here: <http://bookshop.cqu.edu.au> (search on the Unit code)

[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

Brendan Goode Unit Coordinator

b.goode@cqu.edu.au

Elaine Wang Unit Coordinator

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Schedule

Week 1 - 11 Mar 2019

| Module/Topic | Chapter | Events and Submissions/Topic |
|---|-------------------------------|---|
| The Basics of Musculoskeletal (MSK) Ultrasound. | Chapter 1 of prescribed text. | Zoom tutorial Thursday 11:30 am (Australian Eastern Standard Time) AEST time. Lab induction to be completed on-line. |

Week 2 - 18 Mar 2019

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

| | | |
|---------------------|-------------------------------|---------------------------------------|
| Common Pathologies. | Chapter 2 of prescribed text. | Zoom tutorial Thursday 11:30 am AEST. |
|---------------------|-------------------------------|---------------------------------------|

Week 3 - 25 Mar 2019

| Module/Topic | Chapter | Events and Submissions/Topic |
|---------------|-------------------------------|---------------------------------------|
| The Shoulder. | Chapter 3 of prescribed text. | Zoom tutorial Thursday 11:30 am AEST. |

Week 4 - 01 Apr 2019

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------|-------------------------------|---|
| The Elbow. | Chapter 4 of prescribed text. | Zoom tutorial Thursday 11:30 AEST. All day residential school Monday 1st of April. Residential school practical assessment due Monday 1st of April. |

Week 5 - 08 Apr 2019

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------------|-------------------------------|---------------------------------------|
| The Wrist Part One | Chapter 5 of prescribed text. | Zoom tutorial Thursday 11:30 am AEST. |

Vacation Week - 15 Apr 2019

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

Week 6 - 22 Apr 2019

| Module/Topic | Chapter | Events and Submissions/Topic |
|---------------------|-------------------------------|---------------------------------------|
| The Wrist Part Two. | Chapter 5 of prescribed text. | Zoom tutorial Thursday 11:30 am AEST. |

Week 7 - 29 Apr 2019

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------|-------------------------------|--|
| The Ankle. | Chapter 8 of prescribed text. | Zoom tutorial Thursday 11:30 am AEST. Written assignment due Tuesday 30rd April 1:00 pm. Residential school all day Wednesday 1st of May. Second attempt at practical assessment due if initial assessment unsuccessful in week 4. Written Assessment Due: Week 7 Tuesday (30 Apr 2019) 1:00 pm AEST In Lab Practical Assessment Due: Week 7 Wednesday (1 May 2019) 3:30 pm AEST |

Week 8 - 06 May 2019

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------|-------------------------------|---------------------------------------|
| The Knee. | Chapter 7 of prescribed text. | Zoom tutorial Thursday 11:30 am AEST. |

Week 9 - 13 May 2019

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------------|--|---------------------------------------|
| The Hip and Thigh. | Chapter 6 pp 223-276 of prescribed text. | Zoom tutorial Thursday 11:30 am AEST. |

Week 10 - 20 May 2019

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------------|--|---------------------------------------|
| Hernia Sonography. | Chapter 6 pp 276-280 of prescribed text. | Zoom tutorial Thursday 11:30 am AEST. |

Week 11 - 27 May 2019

| Module/Topic | Chapter | Events and Submissions/Topic |
|----------------------------|-------------------------------|---------------------------------------|
| Interventional Techniques. | Chapter 9 of prescribed text. | Zoom tutorial Thursday 11:30 am AEST. |

Week 12 - 03 Jun 2019

| Module/Topic | Chapter | Events and Submissions/Topic |
|----------------|---------|---------------------------------------|
| Revision week. | | Zoom tutorial Thursday 11:30 am AEST. |

Review/Exam Week - 10 Jun 2019

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

Exam Week - 17 Jun 2019

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

Term Specific Information

Welcome to MEDS13007 Musculoskeletal Ultrasound my name is Brendan Goode and I will be the unit coordinator. For those of you who don't know I am based on the Melbourne campus, email b.goode@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 and in this e-profile. 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 what is required to effectively interact with other health professionals in the medical field if they attend Zoom sessions rather than watching recordings.

In order to pass this unit, students must attain at least 50% overall, and meet the minimum mark specified for each assessment task.

As part of this unit there are three assessment tasks; 1/ a practical assessment during Residential School Monday of week 4, 2/ a written assessment due Tuesday of week 7 and 3/ an 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, during the week 1 Zoom tutorial.

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 Scanning Skills Development 2, and must be done in order to participate in any lab based components of the program. This lab induction task must be successfully 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

In order to successfully complete this unit a written assessment task designed to assess your theoretical and technical knowledge as it relates to musculoskeletal sonography must be submitted. Aspects related to image interpretation, communication and the clinical application of sonography in **either** the shoulder or elbow will all be assessed. The assessment will involve you answering questions related to **either** shoulder or elbow sonography. Both the shoulder and elbow assessment tasks will require you to answer four questions which relate 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 labeling should be done by you, it is not acceptable to include pre-labeled images as this constitutes a form of 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 and as such use terminology appropriate to a health care setting. The assignment word limit is 1500 +/- 10% with marks being allocated for remaining within the word limit, references and figure/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 Collaborate session.

Assessment Due Date

Week 7 Tuesday (30 Apr 2019) 1:00 pm AEST

Submit via Turnitin.

Return Date to Students

Week 9 Wednesday (15 May 2019)

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;

- Describe, using sonographic terminology, what abnormalities of the shoulder/elbow are being depicted and provide a diagnosis justifying your decision. 25 marks
- Indicate five sonographic views which are included as part of a routine shoulder/elbow examination. 5 marks
- 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 and clearly indicated on the images by yourself. 20 marks
- Describe 5 separate shoulder or elbow, based upon your assessment task region, abnormalities which can be assessed accurately utilizing ultrasound. 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 5 abnormalities specified. 30 marks.

With 10 marks being allocated for referencing and an additional 10 marks for assignment mechanics.

Your assignment will be assessed on;

1. The accuracy of your image descriptions and the justification of your diagnosis 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. do the clinical conditions you have indicated occur in the body region you have selected?
 5. The quality and variety of academic references selected to support the clinical conditions you have selected.
- Marks will be awarded for correct referencing and assignment mechanics such as spelling and grammar.

An assignment rubric is available in the week 1 Moodle site with further information being provided in the assessment overview recording in week 1 of the unit Moodle site and during the week one Zoom tutorial on Thursday.

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 Monday of week 4, you must, under the supervision of your tutor, produce a true longitudinal image of the supraspinatus tendon. This image will form the basis of your practical assessment with marks allocated based upon the diagnostic quality of your image taking into consideration imaging parameters such as; image plane, image depth, image gain and focal zone position. Furthermore, using the image you have acquired, you must correctly indicate the subacromial/subdeltoid bursa and the acromion to your supervising tutor. You must save your image to the ultrasound unit, annotating the image with your name, student number and the date of assessment.

Assessment Due Date

Week 7 Wednesday (1 May 2019) 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 7 Wednesday (1 May 2019)

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 minimum requirement in week 4 will be eligible for one further attempt in week 8.

Assessment Criteria

This is a non-graded (pass/fail) assessment task being designed to examine your ability to correctly interpret sonographic anatomy and critically assess the image you have generated with respect to equipment settings and anatomy displayed. Your image and your anatomical identification will be assessed on the following criteria:

- a. True longitudinal image of the supraspinatus tendon
- b. Image depth
- c. Correct identification of required structures to supervising tutor.
- d. Image gain
- e. Focal zone adjustment

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 gradebook.

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