



# MEDS20012 Musculoskeletal Ultrasound (Lower Body)

## Term 3 - 2018

Profile information current as at 02/05/2024 01:57 pm

All details in this unit profile for MEDS20012 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 is designed to cover the theory and practice of basic soft tissue ultrasound imaging (lower body) and is appropriate for science graduates and allied health professionals wishing to use ultrasound as a focused diagnostic tool at the point of care. The unit will interest students engaged in managing soft tissue injury and pathology, or science graduates interested in lower body musculoskeletal imaging. You will develop knowledge of lower body musculoskeletal ultrasound with emphasis on interpretation of anatomical structures, biomechanics, and pathology. You will differentiate musculoskeletal pathology from that of other body structures. You will apply techniques for obtaining, interpreting and assessing optimised ultrasound images in the university ultrasound scanning facilities.

### Details

Career Level: *Postgraduate*

Unit Level: *Level 8*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

### Pre-requisites or Co-requisites

Co-requisites MEDS20009 Science and Instrumentation of Ultrasound

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 3 - 2018

- Distance

### 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 Postgraduate 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. **Online Test**

Weighting: Pass/Fail

#### 2. **Written Assessment**

Weighting: Pass/Fail

### Assessment Grading

This is a pass/fail (non-graded) unit. To pass the unit, you must pass all of the individual assessment tasks shown in the table above.

## 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 Verbal student feedback

##### **Feedback**

Review of textbooks prescribed and supplementary

##### **Recommendation**

Continue to utilise the current prescribed textbook however change to the current edition from 2001 to 2007.

## Unit Learning Outcomes

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

1. Describe anatomy, biomechanics and pathophysiology specific to the musculoskeletal system of the lower body
2. Differentiate normal from abnormal ultrasound appearance of the musculoskeletal system of the lower body
3. Apply safe ultrasound techniques to generate and optimise diagnostic images of the musculoskeletal system of the lower body
4. Interpret ultrasound images to provide a differential diagnosis, including reference to safety and the diagnostic limitations of ultrasound
5. Recommend appropriate management decisions based on the clinical situation, clinical knowledge and ultrasound findings.

The unit will not require external accreditation but will apply to appropriate profession specific bodies for recognition for Continuing Professional Development (CPD) related to Basic Soft Tissue Ultrasound.

## 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 - Online Test - 0%	•	•		•	•
2 - Written Assessment - 0%			•	•	

### Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
1 - Knowledge	○	○	○	○	○
2 - Communication	○	○	○	○	○
3 - Cognitive, technical and creative skills	○	○	○	○	○
4 - Research					○
5 - Self-management			○	○	○
6 - Ethical and Professional Responsibility				○	○
7 - Leadership					○
8 - 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
1 - Online Test - 0%	○	○	○	○	○	○	○	
2 - Written Assessment - 0%	○	○	○		○	○		

## Textbooks and Resources

### Textbooks

MEDS20012

#### Prescribed

#### Ultrasound of the Musculoskeletal System

Edition: First (2007)

Authors: Stefano Bianchi and Carlo Martinoli

Springer-Verlag

New York , New York , USA

ISBN: 978-3-540-28163-4

Binding: eBook

#### Additional Textbook Information

Prescribed text is common for units MEDS20010, MEDS20011 and MEDS20012 and is available as a free download from the CQUniversity library.

### IT Resources

#### You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- Suitable storage media, such as a removeable USB stick (4gb or greater)
- Microphone and camera to attend the Zoom 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](mailto:b.goode@cqu.edu.au)

## Schedule

### Week 1 - 05 Nov 2018

Module/Topic	Chapter	Events and Submissions/Topic
Revision of sonographic tissue types and tear classification	Chapters 3 and 4 of prescribed text available from the library (digital copy) as a free download. <b>Prescribed Textbook</b> Ultrasound of the Musculoskeletal System (2007) Authors: Stefano Bianchi and Carlo Martinoli. Additional readings and lectures on Moodle site.	Zoom tutorial Wednesday Week 1 (07/11/18) at 6:00 pm Australian Eastern Standard Time (AEST). Times and dates for future zoom tutorials will be decided during this week's tutorial.

### Week 2 - 12 Nov 2018

Module/Topic	Chapter	Events and Submissions/Topic
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Hip sonography part 1: Paediatric hip	Chapter 19 of prescribed text available from the library (digital copy). Additional readings and lectures on Moodle site.	Zoom tutorial (date and time to be determined based on student feedback from week 1 zoom tutorial).
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**Week 3 - 19 Nov 2018**

Module/Topic	Chapter	Events and Submissions/Topic
Hip sonography part 2: Adult hip,	Chapter 12 of prescribed text available from the library (digital copy). Additional readings and lectures on Moodle site.	

**Week 4 - 26 Nov 2018**

Module/Topic	Chapter	Events and Submissions/Topic
Anterior and posterior thigh sonography	Chapter 13 of prescribed text available from the library (digital copy). Additional readings and lectures on Moodle site.	Zoom tutorial (date and time to be determined based on student feedback from week 1 zoom tutorial).

**Vacation Week - 03 Dec 2018**

Module/Topic	Chapter	Events and Submissions/Topic
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**Week 5 - 10 Dec 2018**

Module/Topic	Chapter	Events and Submissions/Topic
Knee sonography	Chapter 14 of prescribed text available from the library (digital copy). Additional readings and lectures on Moodle site.	Zoom tutorial (date and time to be determined based on student feedback from week 1 zoom tutorial).

**Week 6 - 17 Dec 2018**

Module/Topic	Chapter	Events and Submissions/Topic
Ankle sonography	Chapter 16 of prescribed text available from the library (digital copy). Additional readings and lectures on Moodle site.	

**Week 7 - 31 Dec 2018**

Module/Topic	Chapter	Events and Submissions/Topic
Foot sonography	Chapter 17 of prescribed text available from the library (digital copy). Additional readings and lectures on Moodle site.	Zoom tutorial (date and time to be determined based on student feedback from week 1 zoom tutorial).

**Week 8 - 07 Jan 2019**

Module/Topic	Chapter	Events and Submissions/Topic
Abdominal wall sonography.	Readings and lectures on Moodle site.	Zoom tutorial (date and time to be determined based on student feedback from week 1 zoom tutorial).

**Week 9 - 14 Jan 2019**

Module/Topic	Chapter	Events and Submissions/Topic
Residential School	Outline of compulsory residential school timetable and assessment tasks specified in Week 9 on the unit Moodle site.	<b>Residential School</b> Consult the 'Term Specific' section of the Unit Profile for more information related to the Residential School.

**Week 10 - 21 Jan 2019**

Module/Topic	Chapter	Events and Submissions/Topic
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Gluteal sonography.	Readings and lectures on Moodle site.	Zoom tutorial (date and time to be determined based on student feedback from week 1 zoom tutorial).
		<b>Residential School Assessment Task</b> Due: Week 10 Friday (25 Jan 2019) 10:00 am AEST

### Week 11 - 28 Jan 2019

Module/Topic	Chapter	Events and Submissions/Topic
Lower limb interventional techniques: Indications, applications and efficacy.	Readings and lectures on Moodle site.	

### Week 12 - 04 Feb 2019

Module/Topic	Chapter	Events and Submissions/Topic
		Zoom tutorial (date and time to be determined based on student feedback from week 1 zoom tutorial). <b>Online Test</b> open: Week 12 Monday (4th February 2019) 9:00 am AEST

### Exam Week - 11 Feb 2019

Module/Topic	Chapter	Events and Submissions/Topic
		<b>Online Test</b> closes Exam week Monday (11th February 2019) 9:00 am AEST.  <b>Online Test</b> Due: Exam Week Monday (11 Feb 2019) 9:00 am AEST

## Term Specific Information

The Lower Limb Musculoskeletal Ultrasound unit coordinator in Term 3, 2018 is Brendan Goode. The preferred method of contact is via email: b.goode@cqu.edu.au; alternatively my phone number is 03 96160519.

In the Lower Limb Musculoskeletal Ultrasound Unit you will be introduced to the theory and practice of sonographic imaging as it relates to the lower limb. You will develop an understanding of the anatomical structures, bio-mechanics and pathology associated with lower limb musculoskeletal sonography. Regular Zoom tutorial sessions will be run throughout the term and it is important for you to attend these in order to deepen your understanding of the unit material, further develop your musculoskeletal sonographic image interpretation and prepare for the end of term on-line test. The initial Zoom tutorial session will be held in week one of term at 6:00 pm AEST Wednesday the 7th of November. While it is strongly recommended you attend all Zoom tutorial sessions, during this initial Zoom tutorial, times for future tutorials will be discussed and decided upon. As a suggestion, students should devote 12.5 hours to study each week in each 6 credit unit course. As a reminder the on-line test is only open for a limited time and you will need to sit the test during this time period so please schedule your time accordingly.

This unit contains a compulsory Residential School held in week 9, with a component of the unit assessment being based upon the sonographic imaging you perform during the Residential School. Further information related to the residential school and the assessment task will be provided during the Week 1 Zoom tutorial session.

The prescribed textbook for this course is:

Ultrasound of the Musculoskeletal System (2007)

Authors: Stefano Bianchi and Carlo Martinoli

Springer-Verlag Berlin Heidelberg

New York, New York, USA

ISBN ISBN-13:978-3540422679

Please note digital copies are available through the University library with a link to the text provided on the Moodle site.

## Assessment Tasks

# 1 Online Test

## Assessment Type

Online Test

## Task Description

Health professionals are required to possess a body of knowledge that is relevant to their scope of practice whereby fundamental knowledge is required to be understood and then be built upon clinically. To demonstrate your understanding and knowledge of this unit you are required to complete an online test.

- This test must be accessed through the assessment tab on Moodle and will comprise 10 questions requiring written responses to be completed in a 90 minute time frame.
- The test will be open from the Monday of Week 12 (4th February 2019) at 9 am (AEST) and will close on Monday of exam Week (11th February 2019) at 9 am (AEST).
- You will need to allocate a 90 minute period throughout the time the test is open in order to complete the test. Please note: You MUST start the test before 7:30 am (AEST) on Monday 11th February 2019 as the test will automatically close at 9 am (AEST) Monday 11th February 2019.
- The test will be open for 90 minutes (allowing 9 minutes per question) with only ONE attempt being allowed.
- Once started the test cannot be paused, stopped, re-started or re-taken.
- Questions will be drawn from a pool of questions to allow each student test to be unique whilst addressing the same learning outcomes for each student. Image viewing questions may be included and you are required to be familiar with normal and pathological sonographic imaging of the areas discussed in this unit.
- As this test is online and open book, you will find it useful if you have produced your own notes from the lectures and tutorials and that you are familiar with the course information.
- You may benefit from having a calculator available when sitting the test.

This assessment is to be undertaken as an individual. As with all other university examinations, colluding with other students on non-group work tasks is considered academic misconduct and may lead to action being taken by the University.

## Assessment Due Date

Exam Week Monday (11 Feb 2019) 9:00 am AEST

The test will be open from Monday of week 12 at 9 am (AEST) and will close on Monday 11th February of exam week at 9 am (AEST). The on-line test will be automatically uploaded at the completion of the test or once the time limit is reached, whichever occurs first.

## Return Date to Students

Exam Week Friday (15 Feb 2019)

Results will be available in the course Moodle site with feedback.

## Weighting

Pass/Fail

## Minimum mark or grade

While this is a pass/fail assessment a minimum standard of 50% of the available marks is required in order to pass the unit.

## Assessment Criteria

You must provide short to medium length typed responses to a series of online questions.

Image interpretation questions will be included and you are required to be familiar with both normal and pathological sonographic imaging of the regions discussed in this unit.

The test will comprise 10 questions with each question worth 10 marks (giving a maximum of 100 marks available)

Once started the test cannot be paused, stopped, re-started or re-taken. Questions will be drawn from a pool of questions to allow tests to be different for each student while still addressing the same learning outcomes.

Responses will be assessed according to:

- use of appropriate terminology and descriptors as well as grammar, spelling, relevance of response and competence in addressing all elements of the question
- the student's ability to appropriately interpret sonographic images and then to succinctly compose an appropriate response based on their learning from the unit.

No referencing style is required in the online test.

The test will be open from Monday of week 12 at 9 am (AEST) and will close on Monday of exam week at 9 am (AEST).

## Referencing Style

- [Vancouver](#)



## **Submission**

Online

### **Submission Instructions**

Test will be online, accessed through the assessment tab on Moodle and will comprise 10 questions requiring answers. The test will be open for 90 minutes and once started cannot be paused or retaken. The online test will be automatically submitted once completed or the time limit of 90 minutes has been reached.

### **Learning Outcomes Assessed**

- Describe anatomy, biomechanics and pathophysiology specific to the musculoskeletal system of the lower body
- Differentiate normal from abnormal ultrasound appearance of the musculoskeletal system of the lower body
- Interpret ultrasound images to provide a differential diagnosis, including reference to safety and the diagnostic limitations of ultrasound
- Recommend appropriate management decisions based on the clinical situation, clinical knowledge and ultrasound findings.

### **Graduate Attributes**

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Research
- Self-management
- Ethical and Professional Responsibility
- Leadership

## **2 Residential School Assessment Task**

### **Assessment Type**

Written Assessment

### **Task Description**

Within your scope of practice as a health practitioner, you will integrate the knowledge and skills learnt in this unit into your clinical decision making. The unit assessment task has been designed to aid you in this process by recording and critiquing your own as well as supplied sonographic images. To successfully complete the written assessment task you will incorporate theoretical knowledge, live scanning and image interpretation. All of which are key skills relevant to your future clinical role incorporating sonography.

In order to successfully complete this unit, attendance is compulsory at the residential school. The residential school will be one to two days in duration, based upon student numbers with the date and location to be determined during the first Zoom tutorial (6 pm AEST, Wednesday 7th November 2018). The tasks you will perform at the residential school will provide an opportunity for you to develop your knowledge of machine instrumentation and controls under the guidance of your tutor. You will also have the opportunity to begin the development of motor skills necessary for the successful generation of sonographic images of the musculoskeletal system including the use of dynamic assessment techniques.

During the residential school you are required to generate and correctly annotate four images specifically related to the unit content.

These four images will be:

- Transverse greater trochanter depicting gluteus minimus and gluteus medius tendons
  - Longitudinal anterior knee depicting quadriceps tendon, patella base and suprapatella bursa
  - Longitudinal anterior talo-fibular ligament and,
  - Longitudinal plantar plate of the second toe.
- With each image you are required to clearly annotate the anatomical structures and a description of the imaging plane as specified on the marking Rubric found on the unit Moodle site in week one.
  - Images will then be saved onto your USB portable storage device.
  - The images you generate and label in the residential school combined with the three images provided by the lecturer in week one of the unit Moodle site will need to be converted into a .pdf file to form the basis of your assessment.

### **Assessment Due Date**

Week 10 Friday (25 Jan 2019) 10:00 am AEST

On-line via Moodle

### **Return Date to Students**

Week 11 Friday (1 Feb 2019)

Results will be available in the unit Moodle site with feedback.

**Weighting**

Pass/Fail

**Minimum mark or grade**

50%

**Assessment Criteria**

The residential school assessment task is designed to examine your ability to correctly interpret sonographic anatomy and to critically assess the images you generate with respect to equipment settings and anatomy displayed.

You will also be required to critically assess the image quality of your and the lecturers images with respect to image:

- Depth
- Gain - both overall and focally
- Focal zone position
- Image plane accuracy
- Image accuracy
- Anatomical accuracy
- Image preset appropriate
- Ultrasound probe appropriate.

**Referencing Style**

- [Vancouver](#)

**Submission**

Online

**Submission Instructions**

Online via unit Moodle site.

**Learning Outcomes Assessed**

- Apply safe ultrasound techniques to generate and optimise diagnostic images of the musculoskeletal system of the lower body
- Interpret ultrasound images to provide a differential diagnosis, including reference to safety and the diagnostic limitations of ultrasound

**Graduate Attributes**

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Self-management
- Ethical and Professional Responsibility

## 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