



MEDS20011 Musculoskeletal Ultrasound (Upper Body)

Term 3 - 2019

Profile information current as at 04/05/2024 11:58 am

All details in this unit profile for MEDS20011 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 is designed to cover the theory and practice of basic soft tissue ultrasound imaging (upper 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, and also science graduates interested in upper body musculoskeletal imaging. You will develop knowledge of upper 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-requisite: 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 - 2019

- 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 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. **Written Assessment**

Weighting: Pass/Fail

2. **Online Test**

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 Moodle student feedback.

Feedback

Inclusion of a residential school.

Recommendation

Continue with the hands-on practical nature of the residential school. Allowing students to explore the ultrasound machine controls and to further develop their practical skills related to image recognition and ultrasound probe manipulation.

Feedback from Zoom tutorials.

Feedback

Lecturer's non-judgmental teaching style.

Recommendation

Ensure explanations of unit material are in a collaborative learning environment in which the students feel ownership of the tutorial sessions. Allowing the students to explore concepts and material which they are unsure of and/or wish to expand upon due to interest.

Feedback from In class and during residential school student discussions.

Feedback

Clinical relevance of unit material.

Recommendation

Continue to ensure unit content is up to date and has clear clinical relevance to the student cohort. Thereby encouraging student's engagement with the unit material and fostering discussion during Zoom tutorial sessions.

Unit Learning Outcomes

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

1. Describe the anatomy, biomechanics and pathophysiology of the musculoskeletal system of the upper body
2. Differentiate normal from abnormal ultrasound appearance of the musculoskeletal system of the upper body
3. Apply safe ultrasound techniques to generate and optimise diagnostic images of the musculoskeletal system of the upper 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

MEDS20011

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

The unit prescribed text 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)
- Camera and microphone for attending Zoom tutorials

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

Schedule

Week 1 - 11 Nov 2019

Module/Topic	Chapter	Events and Submissions/Topic
Sonographic physics and techniques.	Chapter 1 of prescribed text available from the library (digital copy) as a free download. Prescribed Textbook Ultrasound of the Musculoskeletal System (2007) Authors: Stefano Bianchi and Carlo Martinoli	Zoom tutorial Tuesday 7:00 pm Australian Eastern Standard Time (AEST).
	Additional readings and lectures on Moodle site.	

Week 2 - 18 Nov 2019

Module/Topic	Chapter	Events and Submissions/Topic
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Shoulder sonography Part 1: Indications, Limitations and Routine	Chapter 6 of prescribed text available from the library (digital copy). Additional readings and lectures on Moodle site.	Zoom tutorial 7:00 pm AEST.
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Week 3 - 25 Nov 2019

Module/Topic	Chapter	Events and Submissions/Topic
Shoulder sonography Part 2: Sonographic Pathology	Chapter 6 of prescribed text available from the library (digital copy). Additional readings and lectures on Moodle site.	Zoom tutorial Tuesday 7:00 pm AEST.

Week 4 - 02 Dec 2019

Module/Topic	Chapter	Events and Submissions/Topic
Elbow sonography Part 1: Indications, Limitations and Routine.	Chapter 8 of prescribed text available from the library (digital copy). Additional readings and lectures on Moodle site.	

Vacation Week - 09 Dec 2019

Module/Topic	Chapter	Events and Submissions/Topic

Week 5 - 16 Dec 2019

Module/Topic	Chapter	Events and Submissions/Topic
Elbow sonography Part 2: Sonographic Pathology.	Chapter 8 of prescribed text available from the library (digital copy). Additional readings and lectures on Moodle site.	Zoom tutorial Tuesday 7:00 pm AEST.

Week 6 - 23 Dec 2019

Module/Topic	Chapter	Events and Submissions/Topic
Wrist sonography Part 1: Indications, Limitations and Routine.	Chapter 10 of prescribed text available from the library (digital copy). Additional readings and lectures on Moodle site.	

Week 7 - 06 Jan 2020

Module/Topic	Chapter	Events and Submissions/Topic
Wrist sonography Part 2: Sonographic Pathology	Chapter 10 of prescribed text available from the library (digital copy). Additional readings and lectures on Moodle site.	Zoom tutorial Tuesday 7:00 pm AEST.

Week 8 - 13 Jan 2020

Module/Topic	Chapter	Events and Submissions/Topic
Finger sonography.	Chapter 11 of prescribed text available from the library (digital copy). Additional readings and lectures on Moodle site.	Zoom tutorial Tuesday 7:00 pm AEST.

Week 9 - 20 Jan 2020

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.	Residential School Consult the 'Term Specific' section of the Unit Profile for more information related to the Residential School.

Week 10 - 27 Jan 2020

Module/Topic	Chapter	Events and Submissions/Topic

Upper Limb Interventional Techniques: Indications, Applications and Efficacy.

Material included on Moodle site.

Zoom tutorial Tuesday 7:00 pm AEST.

Written Assessment Due: Week 10 Friday (31 Jan 2020) 4:00 pm AEST

Week 11 - 03 Feb 2020

Module/Topic	Chapter	Events and Submissions/Topic
Elastography	Lectures and additional readings on Moodle site.	Zoom tutorial Tuesday 7:00 pm AEST.

Week 12 - 10 Feb 2020

Module/Topic	Chapter	Events and Submissions/Topic
Revision Week	Revise weekly Moodle site material.	Online test opens Monday at 9 am (AEST).

Exam Week - 17 Feb 2020

Module/Topic	Chapter	Events and Submissions/Topic
		Online Test Due: Exam Week Monday (17 Feb 2020) 9:00 am AEST

Term Specific Information

MEDS20011 has a Residential School scheduled for week 9 on Tuesday the 21st of January. During the Residential school you will receive practical tuition related to ultrasound machine optimization and 'hands-on' sonographic techniques focused upon the upper limb. Attendance at the Residential School is compulsory with aspects of the unit assessment being linked to the images you generate during the Residential School. The Residential School will be conducted at 120 Spencer Street, at the Melbourne campus of CQUniversity. More information related to the residential School structure and timetable will be provided throughout term during the Zoom collaborate sessions.

Assessment Tasks

1 Written Assessment

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 day in duration and held on the Tuesday of week 9 at the Melbourne campus of CQUniversity. 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:

- longitudinal midline supraspinatus tendon
- transverse anterior supraspinatus tendon
- longitudinal common extensor tendon elbow and,
- transverse carpal tunnel.

- 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 (31 Jan 2020) 4:00 pm AEST

Online via Moodle

Return Date to Students

Week 11 Friday (7 Feb 2020)

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 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 upper body

Graduate Attributes

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

2 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 Monday the 10th of February of Week 12 at 9 am (AEST) and will close the following

Monday 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 the 17th of February as the test will automatically close at 9 am (AEST) Monday the 17th of February.
- 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 (17 Feb 2020) 9:00 am AEST

The online test will be uploaded at the completion of the test or once the time limit is reached, whichever occurs first.

Return Date to Students

Exam Week Friday (21 Feb 2020)

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

Weighting

Pass/Fail

Minimum mark or grade

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

Assessment Criteria

Questions will be drawn from a pool of questions to allow tests to be different for each student. Image interpretation questions will be included and you are required to be familiar with normal and pathological sonographic imaging of the regions discussed in this unit. The test will be open from Monday of week 12 at 9 am (AEST) and will close the following Monday 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 the 17th of February as the test will automatically close at 9:00 am (AEST).

The test will be marked out of 100 marks and you will need to achieve a score of greater than or equal to 50% of the total available marks in order to successfully pass the test.

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 the anatomy, biomechanics and pathophysiology of the musculoskeletal system of the upper body
- Differentiate normal from abnormal ultrasound appearance of the musculoskeletal system of the upper 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

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