



MEDS20010 *Fundamentals of Musculoskeletal*

Ultrasound

Term 2 - 2018

Profile information current as at 17/05/2024 09:47 pm

All details in this unit profile for MEDS20010 have been officially approved by CQUUniversity 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 an introduction to the theory and practice of basic soft tissue ultrasound imaging and is appropriate for science graduates and allied health / medical professionals wishing to use ultrasound as a focused diagnostic tool at the point of care. The unit will interest students engaged in, or studying towards, managing soft tissue injury and pathology, and is also useful to anyone who has interest in musculoskeletal imaging. You will develop knowledge of musculoskeletal ultrasound with emphasis on interpretation of anatomical structures, biomechanics, and pathology. You will study a range of anatomical structures and pathology which can mimic musculoskeletal conditions.

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 2 - 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).

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 student feedback

Feedback

Great information provided in lectures with practical applications which helped with learning and understanding.

Recommendation

Continue to provide in-depth lectures as a learning resource.

Feedback from student feedback

Feedback

Assistance with written assessment and obtaining feedback prior to submission was beneficial.

Recommendation

Continue to provide assistance with e-poster prior to submission.

Feedback from student feedback

Feedback

Email support and support in zoom tutorial sessions was beneficial

Recommendation

continue to provide email support, as well as support in zoom tutorial sessions.

Unit Learning Outcomes

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

1. Describe general anatomy, biomechanics and pathophysiology of the musculoskeletal system and related structures
2. Differentiate normal and simple abnormal ultrasound appearance of the musculoskeletal system and related structures
3. Differentiate ultrasound appearance of the musculoskeletal system from anatomical structures and pathology of other body systems
4. Interpret static and dynamic diagnostic ultrasound images to provide a provisional differential diagnosis.

This 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

 N/A Level	 Introductory Level	 Intermediate Level	 Graduate Level	 Professional Level	 Advanced Level
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Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes			
	1	2	3	4
1 - Online Test - 0%	•	•	•	•
2 - Written Assessment - 0%			•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes			
	1	2	3	4
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

There are no required textbooks.

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- 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

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

Schedule

Week 1 - 09 Jul 2018

Module/Topic	Chapter	Events and Submissions/Topic
Introduction and Information about Assessment items	Lectures and notes on Moodle site.	Zoom tutorial Monday Week 1 (09/07/18) at 7 pm (Australian Eastern Standard Time) AEST. Times and dates for future zoom tutorials will be decided during this week's tutorial.

Week 2 - 16 Jul 2018

Module/Topic	Chapter	Events and Submissions/Topic
Radiologic and sonographic terminology and technical requirements	<p>Chapter 1 available from the library (digital copy).</p> <p>Textbook Ultrasound of the Musculoskeletal System 1 (2007) Authors: Stefano Bianchi and Carlo Martinoli Springer-Verlag Berlin Heidelberg New York, New York, USA ISBN ISBN-13:978-3540422679</p> <p>Additional readings and lectures on course Moodle site.</p>	Zoom tutorial (time to be determined based on student feedback from week 1 Zoom collaborate).

Week 3 - 23 Jul 2018

Module/Topic	Chapter	Events and Submissions/Topic
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Chapter 2 available from the library
(digital copy)

Textbook

Ultrasound of the Musculoskeletal
System 1 (2007)
Authors: Stefano Bianchi and Carlo
Martinoli
Springer-Verlag Berlin Heidelberg
New York, New York, USA
ISBN ISBN-13:978-3540422679

Additional readings and lectures on
course Moodle site.

Skin and subcutaneous structures

Week 4 - 30 Jul 2018

Module/Topic	Chapter	Events and Submissions/Topic
	Chapter 3 available from the library (digital copy)	
	Textbook Ultrasound of the Musculoskeletal System 1 (2007) Authors: Stefano Bianchi and Carlo Martinoli Springer-Verlag Berlin Heidelberg New York, New York, USA ISBN ISBN-13:978-3540422679	
Muscles and Fasciae	Additional readings and lectures on course Moodle site.	Zoom tutorial (time to be determined based on student feedback from week 1 Zoom collaborate).

Week 5 - 06 Aug 2018

Module/Topic	Chapter	Events and Submissions/Topic
	Chapter 3 available from the library (digital copy)	
	Textbook Ultrasound of the Musculoskeletal System 1 (2007) Authors: Stefano Bianchi and Carlo Martinoli Springer-Verlag Berlin Heidelberg New York, New York, USA ISBN ISBN-13:978-3540422679	
Tendons, sheaths and retinaculae	Additional readings and lectures on course Moodle site.	Zoom tutorial (time to be determined based on student feedback from week 1 Zoom collaborate).

Vacation Week - 13 Aug 2018

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 20 Aug 2018

Module/Topic	Chapter	Events and Submissions/Topic
Bursae and fat pads	Lectures and notes on Moodle site. Additional readings and lectures on course Moodle site.	

Week 7 - 27 Aug 2018

Module/Topic	Chapter	Events and Submissions/Topic
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Chapter 4 available from the library (digital copy)

Textbook

Ultrasound of the Musculoskeletal System 1 (2007)
Authors: Stefano Bianchi and Carlo Martinoli
Springer-Verlag Berlin Heidelberg
New York, New York, USA
ISBN ISBN-13:978-3540422679

Additional readings and lectures on course Moodle site.

Zoom tutorial (time to be determined based on student feedback from week 1 Zoom collaborate).

Nerves and Vessels

Week 8 - 03 Sep 2018

Module/Topic	Chapter	Events and Submissions/Topic
Ligaments	Lectures and notes on Moodle site. Additional readings and lectures on course Moodle site.	Zoom tutorial (time to be determined based on student feedback from week 1 Zoom collaborate).

Week 9 - 10 Sep 2018

Module/Topic	Chapter	Events and Submissions/Topic
Bones and joints	Chapter 5 available from the library (digital copy) Textbook Ultrasound of the Musculoskeletal System 1 (2007) Authors: Stefano Bianchi and Carlo Martinoli Springer-Verlag Berlin Heidelberg New York, New York, USA ISBN ISBN-13:978-3540422679 Additional readings and lectures on course Moodle site.	

Week 10 - 17 Sep 2018

Module/Topic	Chapter	Events and Submissions/Topic
Soft tissue characterisation.	Lectures and notes on Moodle site. Additional readings and lectures on course Moodle site.	Written Assessment - e-poster Due: Week 10 Monday (17 Sept 2018) 10:00 am AEST

Week 11 - 24 Sep 2018

Module/Topic	Chapter	Events and Submissions/Topic
Interventional techniques	Chapter 18 available from the library (digital copy) Textbook Ultrasound of the Musculoskeletal System 1 (2007) Authors: Stefano Bianchi and Carlo Martinoli Springer-Verlag Berlin Heidelberg New York, New York, USA ISBN ISBN-13:978-3540422679 Additional readings and lectures on course Moodle site.	Zoom tutorial (time to be determined based on student feedback from week 1 Zoom collaborate).

Week 12 - 01 Oct 2018

Module/Topic	Chapter	Events and Submissions/Topic
Revision and online test		Online Test open: Week 12 Friday (5th October 2018) 9 am AEST

Review/Exam Week - 08 Oct 2018

Module/Topic	Chapter	Events and Submissions/Topic
Online Test Due: Review/Exam Week Friday (12 Oct 2018) 9:00 am AEST		

Exam Week - 15 Oct 2018

Module/Topic	Chapter	Events and Submissions/Topic
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Term Specific Information

The unit coordinator for Fundamentals of Musculoskeletal Ultrasound in Term 2, 2018 is Erika Gosney. The preferred method of contact is via email: e.gosney@cqu.edu.au; alternatively my phone number is 03 9616 0520.

This unit is an introduction to the theory and practice of basic soft tissue ultrasound imaging where you will develop an understanding of the anatomical structures, biomechanics and pathology associated with musculoskeletal ultrasound.

It is important that you attend the Zoom tutorial sessions as a way of deepening your understanding of the unit material and support your success in the unit. As a suggestion, students should spend 12.5 hours of study per 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 at that time so please schedule your time accordingly.

The prescribed textbook for this course:
Ultrasound of the Musculoskeletal System 1 (2007)
Authors: Stefano Bianchi and Carlo Martinoli
Springer-Verlag Berlin Heidelberg
New York, New York, USA
ISBN ISBN-13:978-3540422679
Digital copies are available through the library.

Assessment Tasks

1 Online Test

Assessment Type

Online Test

Task Description

Every health professional needs to possess a body of knowledge that is relevant to their scope of practice whereby the fundamentals are required to be understood which you will build upon clinically. To demonstrate your understanding and knowledge of this course you are required to complete an online test.

- This test must be accessed through the assessment tab on Moodle and will comprise 10 questions which will require written answers
- 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 tests to be different 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
- The test will be open from the Friday of Week 12 (5th October 2018) at 9 am (AEST) and will close on Friday 12th October 2018 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 Friday 12th October 2018 as the test will automatically close at 9 am (AEST) Friday 12th October 2018.

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 Deputy

Dean of Learning and Teaching.

Assessment Due Date

Review/Exam Week Friday (12 Oct 2018) 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 (19 Oct 2018)

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

Weighting

Pass/Fail

Minimum mark or grade

50%

Assessment Criteria

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

Image viewing questions may be included and you are required to be familiar with both normal and pathological sonographic imaging.

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

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/ graphs/ tables and then to succinctly compose an appropriate response based on their learning from the unit.

No referencing style is required in the online 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.

Test will be open for 90 minutes and once started cannot be paused or retaken. Submission will need uploaded when the time limit is reached or once all questions have been answered.

Learning Outcomes Assessed

- Describe general anatomy, biomechanics and pathophysiology of the musculoskeletal system and related structures
- Differentiate normal and simple abnormal ultrasound appearance of the musculoskeletal system and related structures
- Differentiate ultrasound appearance of the musculoskeletal system from anatomical structures and pathology of other body systems
- Interpret static and dynamic diagnostic ultrasound images to provide a provisional differential diagnosis.

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills

2 Written Assessment - e-poster

Assessment Type

Written Assessment

Task Description

In your role as a health professional you may be asked to complete a presentation for example, at a conference where e-posters are common. In this assessment task you will develop skills associated with the formation of an e-poster that enables you to undertake this task in any topic. You may choose to present your e-poster at a future conference to share your understanding of ultrasound of soft tissues with your peers. You are required to develop an educational e-poster that clearly presents the use of ultrasound to examine a specific musculoskeletal (MSK) structure or area to be developed.

- The presentation must be limited to eight (8) slides with the title and reference slides being in addition to this
- An abstract is required to accompany the e-poster, but not included within the poster
- The e-poster should be written at a level suitable for presentation at a conference
- You must state which conference you would intend it to be presented to (nominate your intended audience)
- The first slide should be the title slide which should contain the title of the presentation, your name and qualifications
- Each content slide should have clear headings and be presented in a logical, clear and visually appealing fashion
- The area outlined in the poster should be clinically relevant to the practice of musculoskeletal sonography
- The anatomy, sonographic appearance of normal and abnormal structures, and a discussion of why the examination may be undertaken along with the pathology that may be encountered in the region should be discussed.

You are required to have researched, analysed, critically reflected on and synthesized current (less than 10 yrs post publication) medical literature from peer reviewed sources. A high level of communication skills needs to be utilised to convey a clear message with all anatomical drawings being of high quality and well labelled. Please note all slides are required to be in 'landscape' format.

Assessment Due Date

Week 10 Monday (17 Sept 2018) 10:00 am AEST

Return Date to Students

Week 12 Monday (1 Oct 2018)

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

Weighting

Pass/Fail

Minimum mark or grade

50%

Assessment Criteria

Your e-poster will be assessed on: Academic writing

- The e-poster should contain organized, logical and coherent content with a clear and concise message
- Please use lines and bullets to highlight points. It should be proof read and edited ensuring accurate spelling, grammar and appropriate vocabulary for the target audience
- Content of e-poster - the purpose of the poster should be clear and relevant to the field of musculoskeletal sonography
- The anatomy, sonographic appearance and pathophysiology of a particular structure or tissue should be presented with diagrams and images used to support the discussion
- Evidence based content must be used.

Suitability for presentation - The e-poster should be suitable for presentation at the chosen conference and the subject matter relevant to the selected audience. Referencing - In-text references and the reference list must be all accurate, complete and in the correct Vancouver style with high quality and appropriate sources utilized. The marking rubric to be used for this assessment is available on Moodle. You need to obtain a minimum of 50% in the e-poster to pass the unit.

Referencing Style

- [Vancouver](#)

Submission

Online

Submission Instructions

Online via unit Moodle site.

Learning Outcomes Assessed

- Differentiate ultrasound appearance of the musculoskeletal system from anatomical structures and pathology of other body systems
- Interpret static and dynamic diagnostic ultrasound images to provide a provisional differential diagnosis.

Graduate Attributes

- Knowledge
- Communication
- Cognitive, technical and creative skills
- Self-management

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