



MEDS13008 Vascular Sonography

Term 3 - 2022

Profile information current as at 14/12/2025 06:16 pm

All details in this unit profile for MEDS13008 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 will introduce you to vascular ultrasound. In this unit you will explore the sonographic assessment of normal and pathological vascular cases. You will apply knowledge of vascular anatomy and physiology, and the physical properties of Doppler ultrasound to clinical scenarios and case studies to critically reflect on sonographic problems. Engaging in this sonographic decision-making process will culminate in the creation of sonographer's interpretive reports, including a provisional diagnosis.

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 MEDS11002 Relational Anatomy and Image Recognition

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 - 2022

- Online

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 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. **Online Quiz(zes)**

Weighting: 20%

2. **Written Assessment**

Weighting: 40%

3. **Online Test**

Weighting: 40%

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 SUTE comments, student feedback

Feedback

Students reported they enjoyed the weekly practise quizzes, stating that they were great practise for the online test as they had a similar format to online test questions.

Recommendation

Practise quizzes will continue to be provided in the unit.

Feedback from SUTE comments, student feedback

Feedback

Some students asked for more critical thinking examples in questions

Recommendation

Additional critical thinking questions will be included in learning activities such as quizzes and/or tutorials.

Feedback from SUTE comments, student feedback, UC reflection

Feedback

More case studies or scenarios discussed in tutorials that students may encounter while on placement

Recommendation

A case study of the week will be added to some of the tutorials, talking students through a real-life clinical scenario with challenging patient care / clinical indications / pathology.

Unit Learning Outcomes

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

1. Apply knowledge of the anatomy, physiology, and pathological processes of the vascular system to sonographic examinations and sonographic image appearances
2. Describe sonographic techniques and protocols appropriate to vascular ultrasound
3. Analyse normal, anomalous, and abnormal flow haemodynamics and laboratory findings to provide differential diagnoses and produce a provisional sonographic report

The learning outcomes for this unit relate to the requirements of the Australian Sonographer Association (ASA) Competency Standards for the Entry Level Sonographer, unit 1-5, 13,

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
1 - Online Quiz(zes) - 20%	•		
2 - Written Assessment - 40%	•	•	•
3 - Online Test - 40%	•	•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes		
	1	2	3
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			

Textbooks and Resources

Textbooks

MEDS13008

Prescribed

Clinical Doppler Ultrasound

Edition: 3rd edn (2014)

Authors: Pozniak, M & Allan, P

Churchill Livingstone Elsevier

London , UK

ISBN: 978-0-7020-5015-2

Binding: Hardcover

MEDS13008

Supplementary

Vascular Ultrasound How, Why And When

3rd edition (2009)

Authors: Thrush, A & Hartshorne, T

Churchill Livingstone Elsevier

London , UK

ISBN: 978-0-443-06918-5

Binding: Hardcover

[View textbooks at the CQUniversity Bookshop](#)

IT Resources

You will need access to the following IT resources:

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

Referencing Style

All submissions for this unit must use the referencing style: [Vancouver](#)

For further information, see the Assessment Tasks.

Teaching Contacts

Celia Tinetti Unit Coordinator

c.tinetti@cqu.edu.au

Schedule

Week 1 - 07 Nov 2022

Module/Topic	Chapter	Events and Submissions/Topic
Doppler Physics and Haemodynamic Principles	<i>Clinical Doppler Ultrasound</i> by Pozniak & Allan: Chapters 1 and 2, pp. 1-38 <i>Vascular Ultrasound, How, Why and When</i> by Thrush and Hartshorne: Chapters 3, 4, 5, 6 and 7, pp. 23-86	Zoom tutorial Wednesday 1pm PER, 3pm BNE & MKY, 4pm MEL & SYD

Week 2 - 14 Nov 2022

Module/Topic	Chapter	Events and Submissions/Topic
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Abdominal Vasculature	Pozniak & Allan: Chapter 6, pp. 122-134 Thrush and Hartshorne: Chapter 11, pp. 155-174	Zoom tutorial Wednesday 1pm PER, 3pm BNE & MKY, 4pm MEL & SYD
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Week 3 - 21 Nov 2022

Module/Topic	Chapter	Events and Submissions/Topic
Cerebral Arterial System	Pozniak & Allan: Chapter 3, pp. 39-70 Thrush and Hartshorne: Chapter 8, pp. 87-116	Zoom tutorial Wednesday 1pm PER, 3pm BNE & MKY, 4pm MEL & SYD

Week 4 - 28 Nov 2022

Module/Topic	Chapter	Events and Submissions/Topic
Lower Limb Arterial System	Pozniak & Allan: Chapter 4, pp. 71-93 Thrush and Hartshorne: Chapter 9, pp. 117-142	Zoom tutorial Wednesday 1pm PER, 3pm BNE & MKY, 4pm MEL & SYD

Vacation Week - 05 Dec 2022

Module/Topic	Chapter	Events and Submissions/Topic
Enjoy your break! Take this opportunity to ensure your studies for this term are up to date, and please remember the first quiz is due by 5pm AEST Friday		QUIZ 1 - content from weeks 1 - 4; due Friday 5pm AEST

Week 5 - 12 Dec 2022

Module/Topic	Chapter	Events and Submissions/Topic
Upper Limb Arterial System	Pozniak & Allan: Chapter 4, pp. 77-82 Thrush and Hartshorne: Chapter 10, pp. 143-154	Zoom tutorial Wednesday 1pm PER, 3pm BNE & MKY, 4pm MEL & SYD

Week 6 - 19 Dec 2022

Module/Topic	Chapter	Events and Submissions/Topic
Renal Vasculature	Pozniak & Allan: Chapter 9, pp. 193-213 Thrush and Hartshorne: Chapter 12, pp. 175-187	Zoom tutorial Wednesday 1pm PER, 3pm BNE & MKY, 4pm MEL & SYD

Vacation Week - 26 Dec 2022

Module/Topic	Chapter	Events and Submissions/Topic
Enjoy your holiday break! Take this opportunity to ensure your studies for this term are up to date.		

Week 7 - 02 Jan 2023

Module/Topic	Chapter	Events and Submissions/Topic
Peripheral Venous System	Pozniak & Allan: Chapter 5, pp. 94-114 Thrush and Hartshorne: Chapter 13 pp. 193-215 and Chapter 14: pp. 233-253	Zoom tutorial Wednesday 1pm PER, 3pm BNE & MKY, 4pm MEL & SYD

Week 8 - 09 Jan 2023

Module/Topic	Chapter	Events and Submissions/Topic
Hepatoportal Circulation	Pozniak & Allan: Chapter 8, pp. 148-192	Zoom tutorial Wednesday 1pm PER, 3pm BNE & MKY, 4pm MEL & SYD

Week 9 - 16 Jan 2023

Module/Topic	Chapter	Events and Submissions/Topic
No new topic introduced this week		QUIZ 2 - content from weeks 5 - 8; due Friday 5pm AEST

Week 10 - 23 Jan 2023

Module/Topic	Chapter	Events and Submissions/Topic
Haemodialysis	Pozniak & Allan: Chapter 5, pp. 114-120 Thrush and Hartshorne: Chapter 13, pp. 199-232	Zoom tutorial Wednesday 1pm PER, 3pm BNE & MKY, 4pm MEL & SYD Written Assessment Due: Week 10 Friday (27 Jan 2023) 5:00 pm AEST

Week 11 - 30 Jan 2023

Module/Topic	Chapter	Events and Submissions/Topic
Venous Disorders	Pozniak & Allan: Chapter 5, pp. 114-120 Thrush and Hartshorne: Chapter 13, pp. 199-232	Zoom tutorial Wednesday 1pm PER, 3pm BNE & MKY, 4pm MEL & SYD

Week 12 - 06 Feb 2023

Module/Topic	Chapter	Events and Submissions/Topic
Review Week - last minute Q&As		Zoom tutorial Wednesday 1pm PER, 3pm BNE & MKY, 4pm MEL & SYD

Exam Week - 13 Feb 2023

Module/Topic	Chapter	Events and Submissions/Topic
End of term Online test on Tuesday		The two-hour online test starts on Tuesday 14th February 2023 at 10am PER, 12pm BNE & MKY, 1pm MEL & SYD and will remain open for 2 hours. Once you begin the test, it can not be re-started or paused. Online Test Due: Exam Week Tuesday (14 Feb 2023) 2:00 pm AEST

Term Specific Information

Unit Coordinator Information:

Your unit coordinator for 2022 is Celia Tinetti. Celia is based at the Melbourne campus and can be reached via email: c.tinetti@cqu.edu.au or telephone: 03 9616 0528. Please note, all staff emails end in ".cqu.edu.au" - Celia also has a student account; emails sent to this incorrect account will be missed as this account is not monitored throughout the term.

Unit Details:

MEDS13008 is a 6 credit point unit and is a prerequisite for MEDS13002 Sonographic Skills Development 2 (SSD2), which is run in term one of third year. This unit has been designed to ensure your learning is aligned with what is required of you in SSD2, where you will be performing actual ultrasound examinations of the lower extremity veins and carotid arteries. While there is no vascular scanning this term, so you won't be in the driver's seat so to speak, you will be in the passenger seat, looking at the vascular systems of the whole body, including normal and pathological images and surveys of the lower extremity venous system and carotid systems. This early exposure to what you may observe when scanning will help prepare you for next term when you are in the driver's seat. The teachings of 'Vascular Sonography' will be regularly revisited throughout your studies and your knowledge will be relied upon to assist in you in passing SSD2 practical assessments. As you progress through your clinical units, you will also benefit from revising content from this unit as a part of your critical thinking skills. I encourage you to carefully study the unit profile and to be active in the unit online discussion forums. It is recommended that you commit to 12.5 hours of study each week, therefore a total of 150 study hours upon completion of this unit. This unit is another where you will need to incorporate information from previous units, in particular Relational Anatomy and Image Recognition and Physics of Ultrasound. If your anatomy, image recognition, and physics recollection is a bit hazy, please do yourself a huge favour and refresh this before and throughout the unit - it really will help!

Zoom Tutorial Sessions:

Zoom tutorial sessions will be conducted throughout the term - please see Virtual Classes tile on Moodle for exact dates and times. Video recordings and chat conversations are uploaded following the tutorial so that students who did not attend can follow along. While every attempt is made to record tutorials, technical mishaps may prevent tutorials from being uploaded for later viewing, so attendance in real-time is highly recommended. Case study scenarios and sonographic image interpretation (both normal and pathological) will be used to teach correct sonographer worksheet completion and reporting of findings. Tutorial material may be included in any of the assessment components.

Assessment Tasks

1 Online Quizzes

Assessment Type

Online Quiz(zes)

Task Description

There will be 2 online quizzes; one will be held during break week and the other in week 9. Each quiz will be accessible over a 48-hour period (i.e. open Wednesday 5pm and close Friday at 5pm AEST) with the time to complete each quiz to be advised; this is dependent on the number of marks in the quiz as one mark is allocated per minute for the quizzes. Once started, the quiz cannot be paused or restarted. The content of these quizzes will be related to information on patient referrals including but not limited to laboratory data and clinical history, sonographer worksheet documentation, and descriptions of sonographic images. Questions will be in a multiple-choice question (MCQ) or short answer format. The first quiz will relate to content from weeks 1 - 4, and the second quiz from weeks 5 - 8.

These are open book tests, so you have the opportunity to consult your notes, lecture slides, textbooks, and the unit Moodle page.

You are allowed one attempt at each quiz so please ensure you are prepared beforehand. Quiz dates are available on the unit Moodle page.

Number of Quizzes

2

Frequency of Quizzes

Other

Assessment Due Date

Quiz 1 opens 5pm AEST 7/12/22 and closes 5pm AEST 9/12/22; Quiz 2 opens 5pm AEST 18/1/23 and closes 5pm AEST 20/1/23

Return Date to Students

Quiz results and answers will be released once all students have completed the quiz

Weighting

20%

Minimum mark or grade

50%

Assessment Criteria

The purpose of these quizzes is to assist you to evaluate where your learning is at and to identify specific areas you may need to improve upon. These quizzes make up 20% of the unit total, so each quiz equates to 10% of the unit total. The cumulative pass mark for this assessment task is 50%.

This assessment is to be undertaken as an individual. Colluding with other students on non-group work tasks is considered academic misconduct, and will be reported to the Deputy Dean of Learning and Teaching (HMAS).

These assessment tasks must be completed on or before the due dates. No late submissions are permitted after the test has closed, so please ensure adequate time for completion, with additional time for computer mishaps. If you have computer / test access difficulties, you need to contact TaSAC as soon as possible for assistance, and the unit coordinator (after you've contacted TaSAC) if you cannot complete the test in the allocated time before the end of the test (Friday 5pm AEST).

Referencing Style

- [Vancouver](#)

Submission

Online

Learning Outcomes Assessed

- Apply knowledge of the anatomy, physiology, and pathological processes of the vascular system to sonographic examinations and sonographic image appearances

2 Written Assessment

Assessment Type

Written Assessment

Task Description

This written assessment will enable you to research topics and compile sourced information to answer questions about vascular conditions relevant to sonographers.

Marks will be given for the following:

- Questions answered – The questions regarding each condition answered.
- Presentation and quality of writing – Paragraphs are constructed using good grammar, spelling, and punctuation.
- References – Correct referencing throughout.
- Research quality – The use of current peer-reviewed journal articles to answer each of the questions are required to show credibility.
- Word count – The word count for each question should be between 100 and 150 words inclusive. Words above the stipulated word count will not be assessed. There are marks associated with correct word count as per the marking rubric which can be found under the Assessment tile on Moodle.

Assessment Due Date

Week 10 Friday (27 Jan 2023) 5:00 pm AEST

Return Date to Students

Week 12 Friday (10 Feb 2023)

Weighting

40%

Minimum mark or grade

50%

Assessment Criteria

This assessment item will be assessing your ability to answer questions on vascular conditions commonly seen by sonographers. Evidence-based research should inform the answers, which should be written in a concise and cohesive manner. Marking rubric available on the unit Moodle site.

This assessment is to be undertaken as an individual. Colluding with other students on non-group work tasks is considered academic misconduct, and will be reported to the Deputy Dean of Learning and Teaching (HMAS).

Referencing Style

- [Vancouver](#)

Submission

Online

Learning Outcomes Assessed

- Apply knowledge of the anatomy, physiology, and pathological processes of the vascular system to sonographic examinations and sonographic image appearances
- Describe sonographic techniques and protocols appropriate to vascular ultrasound
- Analyse normal, anomalous, and abnormal flow haemodynamics and laboratory findings to provide differential diagnoses and produce a provisional sonographic report

3 Online Test

Assessment Type

Online Test

Task Description

In this end of term online test, you will be demonstrating your critical thinking skills to answer the questions. This may include using information from clinical and ultrasound presentations to arrive at diagnoses, using a diagnosis and working backwards to name the expected sonographic presentation, other combinations of clinical presentation, sonographic presentation, and diagnoses, and extending the ultrasound examination if appropriate. To do this, you will evaluate clinical case studies, images, and clinical presentation information. You will also be required to identify the cause of artefacts on duplex Doppler images and explain both how this can affect the patient results and how to correct these. Questions will be in the format of short answer, medium length or extended answer, and multiple-choice questions (MCQs). Questions and images may include all content covered throughout the whole unit.

The online test will be available on Tuesday 14th February 2023 at 10am AWST / 12pm AEST / 1pm ADST. The length of the test is 2 hours so please ensure you start when the test becomes available to ensure maximum time to complete the test. At 12pm AWST / 2pm AEST / 3pm AEDT, all attempts will be automatically submitted. Only one attempt of the online test will be allowed. Once started, the test cannot be stopped, paused, re-started, or re-taken.

Assessment Due Date

Exam Week Tuesday (14 Feb 2023) 2:00 pm AEST

Please note: Daylight savings time applies for NSW and Vic - test begins at 1pm and closes at 3pm

Return Date to Students**Weighting**

40%

Minimum mark or grade

50%

Assessment Criteria

You will be assessed on your ability to think critically by evaluating clinical information including sonographic images, clinical presentation information, ultrasound findings, and extending your ultrasound examination. Answers require critical thinking and may include explaining what has been demonstrated in the images using appropriate sonographic terminology, including anatomical features, differential diagnoses, a provisional diagnosis, and extending the examination. Answers may also include working backward to provide possible clinical presentations of patients with those specific images.

This assessment is to be undertaken as an individual. Colluding with other students on non-group work tasks is considered academic misconduct, and will be reported to the Deputy Dean of Learning and Teaching (HMAS). This

assessment task must be completed on the due date listed above. No late submissions are permitted after the test has closed, so please ensure adequate time for completion, with additional time in case of computer mishaps. If you have computer / test access difficulties, you need to contact TaSAC as soon as possible for assistance, and the unit coordinator (after you've contacted TaSAC) if you cannot complete the test in the allocated time before the end of the test.

Referencing Style

- [Vancouver](#)

Submission

Online

Learning Outcomes Assessed

- Apply knowledge of the anatomy, physiology, and pathological processes of the vascular system to sonographic examinations and sonographic image appearances
- Describe sonographic techniques and protocols appropriate to vascular ultrasound
- Analyse normal, anomalous, and abnormal flow haemodynamics and laboratory findings to provide differential diagnoses and produce a provisional sonographic report

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