MEDS13008 *Vascular Sonography*
Term 3 - 2024

Profile information current as at 13/07/2025 05:48 pm

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: MEDS12004 Sonographic Skills Development 1
Important note: Students enrolled in a subsequent unit who failed their pre-requisite unit, should drop the subsequent unit before the census date or within 10 working days of Fail grade notification. Students who do not drop the unit in this timeframe cannot later drop the unit without academic and financial liability. See details in the Assessment Policy and Procedure (Higher Education Coursework).

Offerings For Term 3 - 2024

- 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: 40%
2. **Oral Examination**
Weighting: Pass/Fail
3. **Online Test**
Weighting: 60%

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 UC reflection, student feedback

Feedback

Despite changes to the written assessment designed to reduce marking turn-around time (reduction in the number of questions, video explaining the marking rubric, MyStudyWorks feedback and feedforward opportunity), there were still significant delays in the return time for the written assessment.

Recommendation

This assessment strategy will be reviewed and amended where deemed necessary.

Feedback from Student feedback

Feedback

Some students stated that they were not aware that this unit is designed to be taken just before attempting MEDS13011 Sonographic Skills Development 2, and were unaware that not having the knowledge from earlier units could affect their success in the unit.

Recommendation

Students who have not successfully passed MEDS12004 will be advised in writing that attempting this unit without the scaffolded knowledge from prior units may affect their success in this unit.

Feedback from Student feedback, UC reflection

Feedback

Students continued to love attending and participating in interactive tutorials.

Recommendation

Interactive tutorials will be continued in future deliveries of this unit.

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

Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes		
	1	2	3
1 - Online Quiz(zes) - 40%	•		
2 - Oral Examination - 0%	•	•	•
3 - Online Test - 60%	•	•	•

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 - 04 Nov 2024

Module/Topic	Chapter	Events and Submissions/Topic
Doppler Physics and Haemodynamic Principles	*Clinical Doppler Ultrasound* by Pozniak & Allan: Chapters 1 and 2, pp. 1-38 *Vascular Ultrasound, How, Why and When* by Thrush and Hartshorne: Chapters 3, 4, 5, 6 and 7, pp. 23-86	Zoom tutorial Wednesday 6pm AEST / 7pm AEDT

Week 2 - 11 Nov 2024

Module/Topic	Chapter	Events and Submissions/Topic

Abdominal Vasculature	Pozniak & Allan: Chapter 6, pp. 122-134 Thrush and Hartshorne: Chapter 11, pp. 155-174	Zoom tutorial Wednesday 6pm AEST / 7pm AEDT

Week 3 - 18 Nov 2024

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 6pm AEST / 7pm AEDT

Week 4 - 25 Nov 2024

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 6pm AEST / 7pm AEDT

Week 5 - 02 Dec 2024

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 6pm AEST / 7pm AEDT **QUIZ 1** - content from weeks 1 - 4; **due Friday 6/12/24 at 6pm AEST**

Week 6 - 09 Dec 2024

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 6pm AEST / 7pm AEDT

Week 7 - 16 Dec 2024

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 6pm AEST / 7pm AEDT

Break weeks - 23 Dec 2024

Module/Topic	Chapter	Events and Submissions/Topic

Week 8 - 06 Jan 2025

Module/Topic	Chapter	Events and Submissions/Topic
Hepatoportal Circulation	Pozniak & Allan: Chapter 8, pp. 148-192	Zoom tutorial Wednesday 6pm AEST / 7pm AEDT **Written component of oral examination due Monday 6/1/25 at 6pm AEST.** **Oral Examination** Due: Week 8 Monday (6 Jan 2025) 6:00 pm AEST

Week 9 - 13 Jan 2025

Module/Topic	Chapter	Events and Submissions/Topic
No new topic introduced this week		**QUIZ 2** - content from weeks 5 - 8; **due Friday 17/1/25 at 6pm AEST**

Week 10 - 20 Jan 2025

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 6pm AEST / 7pm AEDT

Week 11 - 27 Jan 2025

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 6pm AEST / 7pm AEDT

Week 12 - 03 Feb 2025

Module/Topic	Chapter	Events and Submissions/Topic
Review Week - last minute Q&As		Zoom tutorial Wednesday 6pm AEST / 7pm AEDT

Exam Week - 10 Feb 2025

Module/Topic	Chapter	Events and Submissions/Topic
End of term Online Test on Tuesday		The two-hour online test starts on Tuesday 11th February 2025 at 12pm AEST / 1pm AEDT and will remain open for 2 hours. Once you begin the test, it can not be re-started or paused. [If you're outside of the eastern states, please make sure you know what the local time equivalent for 12pm AEST is.] **Online Test** Due: Exam Week Tuesday (11 Feb 2025) 2:00 pm AEST

Term Specific Information

Unit Coordinator Information:
Your unit coordinator for 2024 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.

Unit Details:
MEDS13008 is a 6 credit point unit and is a prerequisite for MEDS13011 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 (DVT studies) and carotid arteries. While there is no vascular scanning this term, so you won't be in the 'driver's seat', 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 arterial and venous systems. This early exposure to what you may observe when scanning will help prepare you for next term, as well as when you are on placement. 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. Any privately asked questions that are asked during tutorials will be deidentified in the chat conversation transcript. 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 in week 5 and the other in week 9. Each quiz will be accessible over a 24-hour period (i.e., open Thursday 6pm and close Friday at 6pm AEST) and will go for 30 minutes. You are allowed one attempt at each quiz and once started, the quiz cannot be paused or restarted, so please ensure you are prepared beforehand.

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.

Number of Quizzes
2

Frequency of Quizzes
Other

Assessment Due Date

Quiz 1 opens Thursday 5/12/24 6pm, closes Friday 6/12/24 6pm AEST; Quiz 2 opens Thursday 16/1/25 6pm, closes Friday 17/1/25 6pm AEST

Return Date to Students

Results will be released within 2 weeks or once all students have completed the quiz, whichever is the latter.

Weighting
40%

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 Academic Integrity Unit.

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 take screen shots (computer or phone) and 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 6pm 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 Oral Examination

Assessment Type
Oral Examination

Task Description
The purpose of this assessment is to enable you to research topics and compile sourced information to answer three questions about vascular conditions relevant to sonographers, and report back an understanding of your responses. Questions will be available in week 1 on the unit Moodle page.

Part A: Written component:
The purpose of the written component is for you to research and collate information and receive feedback on this prior to your oral examination.

You are to write your answers based on current evidence-based literature. You will receive feedback on your answers related to the following points:
• Questions answered correctly – The content of your answers will be assessed with suggestions for improvement prior to the oral exam.
• Presentation and quality of writing – Paragraphs are constructed using good grammar, spelling, and punctuation.
• References – Correct referencing throughout; reference list at back of document, starting on new page.
• 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 provided feedback.

The written component is to be submitted by 6pm AEST on Monday 6th January 2025.

Part B: Oral component:
The purpose of the oral examination is to confirm your understanding of the content in your responses. It will enable you to elaborate on concepts if you found the word count to be restrictive. If oral examination answers require clarification,

further questions will be asked to enable you to expand on your understanding.

In week 9, you will be able to self-select a time for your oral examination. These will be held via Zoom with the unit coordinator. These are individual sessions only; you will be required to have your camera and microphone on at all times, have your face clearly visible, and answer questions unassisted. All oral examinations will be recorded for later review. Examples of oral examinations are available on the unit Moodle page.

Assessment Due Date
Week 8 Monday (6 Jan 2025) 6:00 pm AEST

Return Date to Students

Weighting
Pass/Fail

Assessment Criteria
This assessment item will be assessing your understanding of your answers to 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. The feedback rubric is available on the unit Moodle site. There is ONE opportunity for feedback only.

The oral examination is a pass/fail task where you are required to demonstrate an understanding of your answers. Questions asked during the examination may vary between students if additional clarity is required to determine your understanding. Reading directly from your answers is not an acceptable response as this does not demonstrate full comprehension of your answer. The exam will take around 10-15 minutes and once started, cannot be paused or restarted, so please ensure you are prepared beforehand.

This assessment is to be undertaken as an individual. Any assistance during the recorded oral examination including but not limited to assistance from other people, online searches, or AI sources is considered academic misconduct, and will be reported to the Academic Integrity Unit.

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 unit.

The online test will be available on Tuesday 11th February 2025 at 12pm AEST / 1pm AEDT. 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 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 (11 Feb 2025) 2:00 pm AEST

Please note: Daylight savings time applies for NSW and Vic - test begins at 1pm and closes at 3pm AEDT. For other locations, please make sure you know what these times equate to for your local time.

Return Date to Students

Weighting
60%

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 Academic Integrity Unit.

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 take screen shots (computer or phone) and 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 (Tuesday 11/2 @ 2pm 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
- 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