



MEDS13008 *Vascular Sonography*

Term 1 - 2017

Profile information current as at 06/05/2024 02:49 am

All details in this unit profile for MEDS13008 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 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

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 1 - 2017

- Brisbane
- Mackay
- Melbourne
- Sydney

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. **Group Work**

Weighting: 40%

2. **Examination**

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 Moodle comments and CC assessment

Feedback

The prescribed text book was generally thought to be a good resource. Some students felt it was somewhat limited in its explanation and content in some areas but then was very clear and comprehensive in others.

Recommendation

Course Coordinator is working on production of a Customised Solutions Textbook in cooperation with the Elsevier company. This project hopes to create a textbook with certain chapters from different Elsevier publications so the student will have access to chapters that best focus on the specified topic. For example: I plan to use two chapters - The physics of Doppler Ultrasound and Doppler artifacts from Kremkau a dedicated Ultrasound physics textbook, two Chapters from Thrush and Hartshorne on "Factors that influence the Doppler Spectrum" and "Optimising the scan" and then from the current textbook Clinical Doppler Ultrasound inclusion of only the chapters on the required, relevant vascular studies such as Carotids, DVT, Abdominal aorta, Renal Arteries and peripheral arteries. One example of the textbook's limited content is in chapter 5 The Peripheral Veins on page 112 where "other causes of leg swelling ,pain or tenderness" is addressed in one paragraph and two sonograms and the CC knows from 30 years clinical experience that there are many more alternate pathologies encountered that the student needs to be aware of and be able to recognise.

Action

the Customised Solutions textbook is currently being compiled and coordinates with the publisher Elsevier

Feedback from Course Coordinators own experiences and Moodle comments

Feedback

The tutorials received a fifty-fifty of positive-negative student feedback. A large number of students felt they were a very positive interactive learning tool that helped them grasp a lot of difficult concepts. BUT there were lots of IT issues during tutorial times. For example in a number of these sessions the first 15-20 minutes were taken up with the tutor actually trying just to get onto the collaborate session.

Recommendation

A very similar format of Collaborates will be run to maintain the very positive student reception but they will adhere more closely to the set time frame. The CC now has a new computer. The original desktop was greater than 10 years old and not always capable of handling some of the newer technologies. Also the Collaborate platform will be the latest updated version to be used next offering of the course.

Action

the ZOOM platform for tutorials was introduced and proved to be very successful and popular. In term 3, tutorials will include completion of a sonographic worksheet and creation of an ISBAR communication to the supervisor or the reporting radiologist.

Feedback from Moodle

Feedback

Some students felt the lectures could have been presented with better organisation or a little more systematically, but they did not mention if it was the individual lectures or the order in which the vascular topics were taught.

Recommendation

This unit requires me to cover the theory of the Deep Vein Thrombosis in extremities in the first 3 weeks and then Cerebrovascula study of the Carotids in weeks 4 & 5. This is to align with the concurrent SSD2 scanning skills unit where theory is learnt prior to applying hands-on scanning practice. Organisation of the individual lectures mostly followed the pattern of an initial presentation of a typical request form, alongside a typical sonographer worksheet to be completed at the end of the US exam. They then proceeded in steps that covered Introduction of the topic, Objectives, Anatomy , Clinical indications - Areas to be examined - Sonographic techniques utilised - Typical Spectral waveforms encountered in both normal and abnormal cases - Sonographic characteristics pathologies involved.

Action

Lectures for term 3, 2017 and term 1 ,2018 will be revised and re-recorded to correlate with the chapters in the

Feedback from "Have your say" Moodle and telephone calls

Feedback

A large number of students thought that the the group assignment was one of the best parts of the course as they felt that process was helpful to their study and the assessment improved teamwork skills.

Recommendation

As positive teamwork and clear concise communication are both important components of being successful in the profession medical world this assessment item will be maintained in the course. Instructions given to the students will be stream-lined and simplified and explicit.

Action

Instructions were streamlined, topic choices were refined and all groups successfully completed and submitted their presentation in a timely manner.

Feedback from Moodle

Feedback

Visual learning of unit content

Recommendation

Sonography is essentially a profession that heavily relies on real-time visual recognition of a normal vs abnormal scenario, I feel it is important to provide a list of visual learning resources for the students. These will be streamlined in number and duration for the next unit offering.

Action

The reading guide has now been displayed separately to the list of visual learning content.

Feedback from "Have your say" Responses on Moodle

Feedback

A number of negative comments were made regarding the navigation through the Moodle page and disorganization of related files.

Recommendation

Complete tidy up of Moodle page with FOLDERS to be used for all related files. To limit the material available on the home page there will be removal of some of the weekly labels such as "Extension Resources" and limit the available quizzes to just one per week.

Action

Moodle page presentation has been revamped, streamlined and was very favourably received in term 1

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.
4. Demonstrate professional collaboration with your peers.
5. Analyse clinical scenarios to provide a differential diagnosis and produce a sonographic report.

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

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 - Group Work - 40%	•		•	•	
2 - Examination - 60%	•	•	•		•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
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					

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
1 - Group Work - 40%	•	•	•	•	•					
2 - Examination - 60%	•	•		•						

Textbooks and Resources

Textbooks

MEDS13008

Prescribed

Clinical Doppler Ultrasound

Edition: 3rd edn (2014)

Authors: Pozniak, M & Allan, P

Elsevier Health Sciences

London, UK

ISBN: 9780702050152

Binding: Hardcover

Additional Textbook Information

Included in the purchase of the hard copy of this textbook is on-line access to the same text as an e-book ISBN: 97807055379.

[View textbooks at the CQUniversity Bookshop](#)

IT Resources

You will need access to the following IT resources:

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

Referencing Style

All submissions for this unit must use the referencing style: [American Psychological Association 6th Edition \(APA 6th edition\)](#)

For further information, see the Assessment Tasks.

Teaching Contacts

Maria Maroney Unit Coordinator
m.maroney@cqu.edu.au

Schedule

Week 1 - 06 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Haemodynamics and Doppler Physics Review	Ch. 1_Physics: Principles, Practice and Artefacts P 1-25 CH 2_ Haemodynamics and Blood Flow p26-38	

Week 2 - 13 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
DVT- Routine study of leg veins	CH 5_The Peripheral Veins PP 94-113	Formation of teams for group-work assessment item.

Week 3 - 20 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
DVT continued- Abnormalities encountered in DVT studies	CH 5_The Peripheral Veins PP 102-103 and On-line resources	Finalisation of teams for group-work assessment item

Week 4 - 27 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Routine Carotid and Vertebral Artery Studies	Ch 3_The Carotid and Vertebral Arteries PP 39-50	

Week 5 - 03 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
Abnormal Extra-cranial Cerebrovascular studies	Ch 3_The Carotid and Vertebral Arteries PP 50-66	Practice half yearly examination on DVT and Carotid US studies Submission of draft of oral presentation for Group work due week 5.

Vacation Week - 10 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 17 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
Lower and Upper Extremity Arterial Doppler examination	CH 4_The Peripheral Arteries PP 71-93	

Week 7 - 24 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
Abdominal Aortic Aneurysm (AAA) - EVAR	CH 6_The Aorta and Inferior Vena Cava PP 122-130 and On- line resources	

Week 8 - 01 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Renal Arteries- Direct and Indirect Assessment	CH 9_ The Kidneys Renal Vascular Doppler PP 193-213	Final productions of recorded group oral presentation due week 8.

Week 9 - 08 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Renal Transplant assessment- Doppler of Haemodialysis Access Grafts	CH 10_ Solid Organ Transplant (renal transplantation) PP 214-232 CH 7_ Haemodialysis Access (Arteriovenous Fistulas and Synthetic Grafts) PP 35- 147	Distribution of two other oral presentations to each student for individual critique.

Week 10 - 15 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Hepato-Portal Assessment_ Abdominal Venous Doppler	CH 8_ The Liver (executing the Liver Doppler Study) PP 148-178 PP 183-191 CH 6_ The inferior Vena Cava PP 130-133	Completion of Self and Peer Assessment (SPA)

Week 11 - 22 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Doppler assessment of Chronic Venous Valvular Insufficiency (CVVI)	CH 5_The Peripheral Veins (Recurrent Varicose Veins and Chronic Venous Insufficiency) PP 114-121	Final submission of critiques of both alternate recorded oral presentations due week 11. Group Work Due: Week 11 Friday (26 May 2017) 4:00 pm AEST

Week 12 - 29 May 2017

Module/Topic	Chapter	Events and Submissions/Topic

Revision and Final Examination Preparation

Mock Exam and exam review
Distribution of links to all recorded oral presentations for unit review and exam preparation.

Review/Exam Week - 05 Jun 2017

Module/Topic	Chapter	Events and Submissions/Topic
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Exam Week - 12 Jun 2017

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

Unit coordinator is Maria Maroney. Contact details: email: m.maroney@cqu.edu.au or phone: [0749232522](tel:0749232522)

The best way to contact Maria initially is by email at m.maroney@cqu.edu.au.

Access to the Internet is required to undertake this unit, as unit materials, tutorials and updates will be provided via Moodle, email and ZOOM.

Assessment Tasks

1 Group Work

Assessment Type

Group Work

Task Description

MEDS13008 Vascular Sonography 2017 Term 1

Assessment Item 1 Group work - Oral Presentation

There are three parts to this assessment item.

- Part A: Each group will produce a 10 to 15 min recorded oral presentation.
- Part B: Your peers will assess your individual contribution to the Group Presentation.
- Part C: You will critique two other Group Presentations.

Your Task

The unit coordinator will assign you to a group for this assessment task. Group members will be from the same campus.

Part A: GROUP PRESENTATION (20%)

As a group, choose **one** (1) topic from the list below:

1. Peripheral Arterial Disease (PAD) of the arteries of the lower limbs
2. Initial diagnosis of Abdominal Aortic Aneurysm (AAA)
3. Post Endovascular Aortic Repair (EVAR) evaluation
4. Fibromuscular Dysplasia (FMD) in renal arteries
5. Atherosclerosis (AS) in carotids
6. Subclavian Steal Syndrome (SSS) in carotids and vertebral arteries
7. Portal Vein (PV) hypertension
8. Deep Vein Thrombosis (DVT) of the lower limb

Prepare and record an oral presentation (10 to 15 minutes) using Power Point for submission in Week 8. Information on best practise group work and good presentation style will be available on the Moodle site.

In Week 5, you are required to submit a draft of your work for feedback from the unit

coordinator.

Your coordinator will assign your marks for this presentation. Group marks will be determined by the content and quality of the oral presentation submitted. **All team members will receive the same marks for this component.**

Part B: INDIVIDUAL CONTRIBUTION 1 (10%)

Other group members will assess your contribution to the group presentation by answering 10 standard questions. You will receive a link to these questions via email in Week 10. You will be awarded the average of these marks.

Part C: CRITIQUE OF GROUP PRESENTATIONS (10%)

Each student will be assigned two other group presentations to critique. You will write a 300-350 words critique, in which you will comment on the content of presentation and the accuracy, quality and detail of the sonograms. The coordinator will assess your critiques. More details about all aspects of this assessment are available on the Moodle site.

Assessment Due Date

Week 11 Friday (26 May 2017) 4:00 pm AEST

Return Date to Students

Week 12 Friday (2 June 2017)

Weighting

40%

Minimum mark or grade

50%

Assessment Criteria

Your team's recorded oral presentation will be assessed by considering each of the following assessment criteria:-

- a) Have you identified the parameters of your topic or problem?
- b) Have you prioritised relevant detail for inclusion?
- c) Is the information included accurate and evidence-based?
- d) Does your content indicate that you understand the most important aspects of the vascular study?
- e) Have you used images and graphics which are relevant and of satisfactory quality?
- f) Have you clearly taken into account your specific audience i.e. your fellow students in MEDS13008 Vascular Sonography?
- g) Do you have adequate support from peer-reviewed, up-to-date references?
- h) Is your organisation, spelling, grammar and use of vocabulary exemplary?

A full marking Rubric is available on the Moodle page.

Referencing Style

- [American Psychological Association 6th Edition \(APA 6th edition\)](#)

Submission

Online Group

Submission Instructions

Only one submission per group of recorded oral presentation to be uploaded onto Moodle. The individual critiques of other groups' presentations will be submitted individually on the unit Moodle page. SPA links will be sent to individual students.

Learning Outcomes Assessed

- Apply knowledge of the anatomy, physiology and pathological processes of the vascular system to sonographic examinations and sonographic image appearances.
- Analyse normal, anomalous and abnormal flow haemodynamics and laboratory findings.
- Demonstrate professional collaboration with your peers.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Team Work

Examination

Outline

Complete an invigilated examination.

Date

During the examination period at a CQUniversity examination centre.

Weighting

60%

Length

180 minutes

Minimum mark or grade

50%

Exam Conditions

Closed Book.

Materials

No calculators permitted

Dictionary - non-electronic, concise, direct translation only (dictionary must not contain any notes or comments).

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