



ECHO12002 Adult Echocardiography 1

Term 1 - 2017

Profile information current as at 01/07/2022 02:24 pm

All details in this unit profile for ECHO12002 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.

Corrections

Unit Profile Correction added on 07-03-17

The below needs to be changed:

I have put it up on Moodle to explain the change

In Assessments

Week 9 should be in week 11 to match physics timetable lab has moved

In Schedule

Week 6 should be

Internal Echo lab

Week 9

This should say ventricular pathologies, not Internal Echo lab

Ventricular Pathologies

Week 9 08-05-2017 Internal Echo lab week Thursday of this week is the Ultrasound of Physics tutorial 2 Practical and Written Assessment - Ventricles and scanning technique Due AEST

Assessment Due Date

Practical skills assessed in week 9 lab blocks

Return Date to Students

Students will be given a pass/fail result within 7 working days. Individual marks will NOT be released to students.

Weighting

Pass/Fail

General Information

Overview

Accurate analysis and assessment of right and left ventricular function and associated pathological processes is a core part of examinations in echocardiography and cardiac physiology. In this unit you will learn to operate the tools needed to analyse ventricular pathology and consider the two dimensional echocardiographic examination. You will study the process and complications involved in acute myocardial infarction, which is a core component of cardiology, analyse basic ECGs, view software and undertake offline analysis. You will apply your knowledge to conduct practical echocardiographic tasks in the laboratory setting, and utilise simulated clinical scenarios and case studies to critically reflect on problems involving cardiac physiology and echocardiography. Development of the knowledge, skills and attitudes required to perform practical cardiac assessment tasks will be assessed within a simulated environment.

Details

Career Level: *Undergraduate*

Unit Level: *Level 2*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

Pre-requisite: ECH011002 Cardiac Structure and Function AND MEDS11001 Fundamentals of Sonographic Practice AND Co-requisite MEDS12001 Physics of Ultrasound AND BMSC12006 Cardiorespiratory Physiology and Coronary Care Management

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

- 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).

Residential Schools

This unit has a Compulsory Residential School for distance mode students and the details are:

Click here to see your [Residential School Timetable](#).

Website

[This unit has a website, within the Moodle system, which is available two weeks before the start of term. It is important that you visit your Moodle site throughout the term. Please visit Moodle for more information.](#)

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit 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. **Written Assessment**

Weighting: 40%

2. **Practical and Written Assessment**

Weighting: Pass/Fail

3. **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](#).

Unit Learning Outcomes

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

1. Apply practical skills and critical thinking to cardiac assessment including echocardiography.
2. Differentiate the aetiology and related cardiac assessment data of ventricular pathologies.
3. Correlate ventricular wall segments to coronary artery distribution and electrocardiogram (ECG) changes.
4. Apply formulas associated with assessment of ventricular function

Linked to National and International Standards

1. ASAR Accreditation Standards for Cardiac Sonography - critical practice Unit 1-5, 8
2. European Association of Cardiovascular Imaging Core Syllabus
3. American Registry for Cardiac Sonography Core Syllabus

Alignment of Learning Outcomes, Assessment and Graduate Attributes



Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes			
	1	2	3	4
1 - Written Assessment - 40%		•	•	•
2 - Practical and Written Assessment - 0%	•		•	•
3 - Examination - 60%		•		

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes			
	1	2	3	4
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				

Graduate Attributes**Learning Outcomes****1 2 3 4****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 - Written Assessment - 40%**

	1	2	3	4	5	6	7	8	9	10
1 - Written Assessment - 40%	•	•		•						
2 - Practical and Written Assessment - 0%	•	•	•	•		•		•		
3 - Examination - 60%	•	•								

2 - Practical and Written Assessment - 0%**3 - Examination - 60%**

Textbooks and Resources

Textbooks

ECHO12002

Prescribed

ASE's comprehensive echocardiography

Authors: Roberto M Lang; Itzhak Kronzon; Steven A Goldstein, (nauki medyczne); Bijoy K Khandheria; Victor Mor-Avi; Elsevier

Amsterdam , Denmark

ISBN: 032326011X

Binding: Hardcover

ECHO12002

Prescribed

Echocardiography: The Normal Examination and Echocardiographic Measurements

Edition: 3rd edn (2017)

Authors: Anderson, B

Echotext

Wynnum , Qld , Australia

Binding: Hardcover

ECHO12002

Supplementary

The EAE Textbook of Echocardiography

(2011)

Authors: Galiuto, L, Badano, L, Fox, K, Sicari, R & Zamorano, JL

Oxford University Press

South Melbourne , Victoria , Australia

ISBN: 9780199599639

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)
- QSTATION - sydney campus

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

Shani Watts Unit Coordinator

s.watts@cqu.edu.au

Schedule

Week 1 - 06 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
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The Two dimensional examination :
 Orientation
 Acoustic windows and imaging planes
 Details are on the unit Moodle site

Week 2 - 13 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
The Two dimensional examination : The parasternal position The Two dimensional examination : The apical position The Two dimensional examination : The subcostal and suprasternal position	Details are on the unit Moodle site	

Week 3 - 20 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
Internal Echo Lab week	Details are on the unit Moodle site	Thursday of this week is the Ultrasound of Physics tutorial 1

Week 4 - 27 Mar 2017

Module/Topic	Chapter	Events and Submissions/Topic
The Two dimensional examination : revising the views and introduction to image sets and protocol	Details are on the unit Moodle site	

Week 5 - 03 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
The Two dimensional examination : image sets - continued Imaging the Left Ventricle	Details are on the unit Moodle site	

Vacation Week - 10 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 17 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
The Two dimensional examination : image sets - continued Imaging the Left Ventricle - Common pathologies	Details are on the unit Moodle site	

Week 7 - 24 Apr 2017

Module/Topic	Chapter	Events and Submissions/Topic
The Two dimensional examination : image sets - continued Imaging the Left Ventricle - Common pathologies	Details are on the unit Moodle site	

Week 8 - 01 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
The Two dimensional examination : image sets - continued Imaging the Right Ventricle Introduction to imaging Valves in 2D	Details are on the unit Moodle site	Written Assessment - The Echo protocol - ventricles Due: Week 8 Monday (1 May 2017) 6:00 pm AEST

Week 9 - 08 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Internal Echo lab week		Thursday of this week is the Ultrasound of Physics tutorial 2

Week 10 - 15 May 2017

Module/Topic	Chapter	Events and Submissions/Topic

Ventricular Pathologies continued Details are on the unit Moodle site

Week 11 - 22 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Internal Echo lab week	Details are on the unit Moodle site	Thursday of this week is the Ultrasound of Physics tutorial 3

Week 12 - 29 May 2017

Module/Topic	Chapter	Events and Submissions/Topic
Review of "the echo protocol"	Details are on the unit Moodle site	

Review/Exam Week - 05 Jun 2017

Module/Topic	Chapter	Events and Submissions/Topic
Review week	Details are on the unit Moodle site	

Exam Week - 12 Jun 2017

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

Unit co-ordinator for 2017 is Sharon Kay Shani can be reached at s.kay@cqu.edu.au or by phone on 02 9324 5051 I am available Monday to Friday It is best to email me for a faster response.

Skills labs/blocks for this unit are mandatory. Labs missed for a valid reason require supporting documentation and students are advised to make up for the missed scanning time when the lab is available for practise sessions. Any lab missed without valid reason or supporting documentation is deemed professional misconduct and as such, may result in a failing grade for Assessment 5 'On-Campus Activity'. Students are required to adhere to the Course Dress Code when using the ultrasound simulation labs and a zero-tolerance policy will be followed.

Important: Week 9 practical assessments will be conducted within the lab blocks outlined in Moodle. You **MUST** be available all of week 12 for re-sits, or to be a patient for the practical re-sits. Re-examinations for all practical assessments will be taking place across week 12.

Assessment Tasks

1 Written Assessment - The Echo protocol - ventricles

Assessment Type

Written Assessment

Task Description

Students will submit a written outline of the Echocardiographic exam standard protocol. This will include techniques used to achieve the images in each scan loop for the 2D parts of the protocol.

One Ventricular pathology will be selected from:

Acute myocardial infarction

Cardiomyopathy

Left Ventricular Hypertrophy

In the above Echocardiographic standard protocol please add in images and explanation of what would be seen in the your chosen pathology. A description of the corresponding ECG for this ventricular pathology **MUST** be used.

Assessment Due Date

Week 8 Monday (1 May 2017) 6:00 pm AEST

Return Date to Students

Week 10 Friday (19 May 2017)

Weighting

40%

Minimum mark or grade

65%

Assessment Criteria

The assessment will be divided up into scanning windows and then loops.

Each loop description for 2D will be accompanied by an image the student has performed or accessed.

All images must be DE-identified.

Maximum 2 loops per page

Referencing Style

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

Submission

Online

Learning Outcomes Assessed

- Differentiate the aetiology and related cardiac assessment data of ventricular pathologies.
- Correlate ventricular wall segments to coronary artery distribution and electrocardiogram (ECG) changes.
- Apply formulas associated with assessment of ventricular function

Graduate Attributes

- Communication
- Problem Solving
- Information Literacy

2 Practical and Written Assessment - Ventricles and scanning technique

Assessment Type

Practical and Written Assessment

Task Description

This is a PASS/FAIL assessment. The assessment challenges students' ability to perform 2D part of the echocardiogram with scanning techniques and image optimisation & acquisition, in a reasonable time period to "advance beginner" level. This includes a worksheet and written assessment of the scanning techniques used.

In summary this is an assessment of the pre-scan, scanning and post-scan skills that are further discussed and emphasized in the unit lab manual, instructed labs, lectures and tutorials. Students will be assessed using the 'assessment of readiness for clinical' (ARC tool).

To achieve a pass, each assessment must be passed individually as these indicate the required standard to progress to the first clinical placement. The following lists the sub-assessment items:

Professional (pre-scan and post-scan) requirements:

- Apply patient care techniques and effective communication to obtain relevant patient history, informed consent, and to direct 'patients' accordingly.
- Apply professionalism in dealing with equipment and the scanning setting.

Scanning Requirements:

- Students are required to perform 2D sonographic techniques and image optimisation in a reasonable time period, to advanced beginner level of the heart.
- 2D echocardiogram and measurements of the ventricles - scanning time limit is **45 minutes**.

The professional and scanning components must each be graded as a 'pass' in order to pass the assessment. The components are graded separately so that if one is passed and the other is not, only the failed component must be repeated.

There is only ONE (1) opportunity to re-sit either component of the assessment item in Week 12.

Please carefully review the assessment information and ARC Tool posted on Moodle.

Assessment Due Date

Practical skills assessed in week 9 lab blocks

Return Date to Students

Students will be given a pass/fail result within 7 working days. Individual marks will NOT be released to students.

Weighting

Pass/Fail

Assessment Criteria

A pass rate of 65% of available marks in EACH component of the practical, written and professional behaviour must be achieved to pass the assessment.

4. As per Assessment of Coursework Procedures (Section 3 Assessment Extensions), item 3.2.5, 'these scanning tests are considered professional assessment tasks and have an absolute submission date. Accordingly, these assessments must be completed by/on the specified date. In the absence of an approved extension, there will be no opportunity to complete the task after this date, and there will be no opportunity to apply a late penalty'.
5. The echocardiography tutor will observe the student's performance of the full scanning procedure and assess each task relative to the stated standards of the Assessment of Readiness for Clinical (ARC) tool. The ARC tool and supporting details can be found on the unit Moodle site.
6. The skills test will assess scanning technique, image optimisation, demonstration of required anatomy on images obtained, and adherence to scan protocols. The non-scanning component will assess communication, professional behaviour, patient care and infection control, ergonomics.

Please be aware that ALL practical skills tests will be video recorded for moderation purposes and not for students to view.

Re-evaluations:

- The minimum pass rate on the skills test is 65%. If the student achieves 60-64.5% their images will be cross-marked by a second assessor.
- In the event that a student does not achieve a minimum of 65% or higher during the week 9 skills test, they will be given ONE opportunity to re-sit the practical test in week 12. This practical test will be conducted by a different assessor to that of the first test. Please be aware that all re-sits will be video recorded for moderation purposes.

"Students who fail a pass/fail component of a graded unit, will be deemed to have failed that unit". Therefore EACH of the two (2) components **must be passed individually** to pass the unit.

Referencing Style

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

Submission

Offline

Submission Instructions

Hard copy

Learning Outcomes Assessed

- Apply practical skills and critical thinking to cardiac assessment including echocardiography.
- Correlate ventricular wall segments to coronary artery distribution and electrocardiogram (ECG) changes.
- Apply formulas associated with assessment of ventricular function

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence
- Ethical practice

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

You must obtain 50% of the maximum marks available to achieve a passing grade.

Exam Conditions

Closed Book.

Materials

Calculator - non-programmable, no text retrieval, silent only

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