ECHO13006 *Adult Echocardiography*
Term 1 - 2022

Profile information current as at 07/02/2023 10:36 pm

General Information

Overview

Accurate analysis and assessment of complex cardiovascular disease and their pathological processes is a core part of all echocardiographic examinations. In preparation for clinical placement you will attain the knowledge and skills needed to analyse complex cardiovascular disease. This will include consideration of the echocardiographic generated images and assessment measures, haemodynamic calculations, pressures and valve prosthetics. You will apply knowledge to practical echocardiographic tasks in the laboratory setting, and utilise simulated clinical scenarios and case studies to analyse diagnostic data to provide differential diagnoses within an ethical framework of best practice and patient safety. You will demonstrate the professional knowledge, attitude and skills required to perform a complete echocardiographic study within a time frame related to clinical expectations. This unit prepares you for the clinical environment using the Assessment of Readiness for Clinical tool (ARC) in conjunction with other assessment tasks. Attendance at practical activities is a requirement of this unit.

Details

Career Level: *Undergraduate*
Unit Level: *Level 3*
Credit Points: *12*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.25*

Pre-requisites or Co-requisites

Prerequisite MPAT12001 Medical PathophysiologyAND ECHO12003 Principles of Cardiac Assessment AND ECHO12005 Cardiac Clinical Unit 2
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 - 2022

- Brisbane
- Perth
- 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 12-credit Undergraduate unit at CQUniversity requires an overall time commitment of an average of 25 hours of study per week, making a total of 300 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. **In-class Test(s)**
Weighting: 50%
2. **In-class Test(s)**
Weighting: 50%
3. **Practical Assessment**
Weighting: Pass/Fail
4. **Performance**
Weighting: Pass/Fail
5. **Reflective Practice Assignment**
Weighting: Pass/Fail

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 unit evaluation

Feedback

In-class tests asked questions that were clinically relevant and they allowed students to demonstrate comprehension of pathology and advanced echocardiographic techniques.

Recommendation

In-class tests rather than online tests are more appropriate for this capstone unit, prior to students entering into clinical placement units. Students recognise the necessity for comprehension of concepts, rather than rote learning facts. Test assessments will continue to be held in-class and will focus on analysis of echocardiographic concepts and interpretation of pathological processes.

Feedback from Moodle unit evaluation

Feedback

Short video presentations before weekly QLAB sessions were very useful and ensured students across all campuses knew the weekly learning objectives.

Recommendation

Short video presentations, targeting theoretical concepts to be put into practice in weekly lab sessions, will continue in 2022 delivery. This will ensure clear weekly learning objectives and equitable delivery across campuses.

Feedback from Moodle unit evaluation

Feedback

Direction and feedback from lab tutors was sometimes inconsistent.

Recommendation

The teaching team will ensure all casual staff are properly oriented to CQU standards. The unit coordinator will ensure clear student learning objectives are relayed to casual staff.

Feedback from Moodle unit evaluation

Feedback

Unmanned sessions run during the week as well as the weekend would benefit student attendance. Opening sessions to second and third years in tandem could allow for greater flexibility in scheduling.

Recommendation

Lab scheduling is limited by student numbers, equitable delivery across campuses and sometimes disruptions to standard schedules due to COVID-19. The teaching team will continue to offer maximal lab access to students. Combined second and third year sessions will be considered.

Unit Learning Outcomes

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

1. Differentiate between the aetiology, pathophysiology and echocardiographic assessment process associated with a variety of cardiovascular disease processes
2. Perform and interpret measurements and advanced haemodynamic calculations applied to 2D, colour and spectral Doppler derived echocardiographic measures
3. Differentiate prosthetic valve and valvular surgical intervention functionality and disease processes
4. Analyse case-based clinical information to formulate differential diagnoses and plan patient management
5. Perform an echocardiographic examination efficiently and effectively
6. Display professional behaviour, teamwork and communication skills consistent with safe practice
7. Apply reflective feedback to professional practice improvement.

Linked to National and International Standards
1. ASAR Accreditation Standards for Cardiac Sonography - critical practice Unit 8 - Cardiac, Foundation units of competence - 1 - 5.
2. European Association of Cardiovascular Imaging Core Syllabus
3. American Registry for Cardiac Sonography Core Syllabus

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	4	5	6	7
1 - In-class Test(s) - 50%	•	•	•	•			
2 - In-class Test(s) - 50%	•	•	•	•			
3 - Practical Assessment - 0%		•			•		
4 - Performance - 0%						•	
5 - Reflective Practice Assignment - 0%							•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes						
	1	2	3	4	5	6	7
1 - Communication	•	•	•	•	•	•	•
2 - Problem Solving	•	•	•	•	•	•	•
3 - Critical Thinking	•	•	•	•	•	•	•
4 - Information Literacy	•	•	•	•			•

Graduate Attributes	Learning Outcomes						
	1	2	3	4	5	6	7
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 - In-class Test(s) - 50%	•	•	•	•		•				
2 - In-class Test(s) - 50%	•	•	•	•		•				
3 - Practical Assessment - 0%	•	•	•	•		•		•		
4 - Performance - 0%	•	•	•		•		•	•		
5 - Reflective Practice Assignment - 0%	•	•	•	•	•			•		

Textbooks and Resources

Textbooks

ECHO13006

Prescribed

A Sonographer's Guide to the Assessment of Heart Disease
Edition: 1st (2014)
Authors: Bonita Anderson
MGA Graphics
BRISBANE , QUEENSLAND , AUSTRALIA
ISBN: 9780992322205
Binding: Hardcover
ECHO13006

Prescribed

Basic to Advanced Clinical Echocardiography
Edition: 1st (2020)
Authors: Bonita Anderson, Margaret M. Park
Wolters Kluwer
USA
ISBN: 9781975136253
Binding: eBook
ECHO13006

Supplementary

ASE's comprehensive echocardiography
Edition: 2nd (2016)
Authors: Lang, Goldestein, Kronzon, Khandheria, Mor-avi
Elsevier Saunders
Philadephia , PA , USA
ISBN: 978-0-32326011-4
Binding: Other

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: Vancouver
For further information, see the Assessment Tasks.

Teaching Contacts

Tarryn Cremin Unit Coordinator
t.cremin@cqu.edu.au

Schedule

Week 1 - 07 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic

Aortic and Pulmonary Valve Stenosis	See e-Reading list	**Lab Agreement** and **Consent Form** due week 1

Week 2 - 14 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Mitral and Tricuspid Valve Stenosis	See e-Reading list	

Week 3 - 21 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Valvular Regurgitation	See e-Reading list	

Week 4 - 28 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
Prosthetic Heart Valves	See e-Reading list	

Week 5 - 04 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic
Hypertrophic Cardiomyopathy	See e-Reading list	

Vacation Week - 11 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 18 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic
Cardiomyopathies	See e-Reading list	**In-class Test 1** Tuesday 19th April at 9am local campus time

Week 7 - 25 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic
Pericardial Heart Disease	See e-Reading list	

Week 8 - 02 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
Pericardial Tamponade and Constrictive Pericarditis	See e-Reading list	

Week 9 - 09 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
Endocarditis, Cardiac Transplantation	See e-Reading list	

Week 10 - 16 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
Systemic Disorders with Cardiac Manifestations 1	See e-Reading list	

Week 11 - 23 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
Systemic Diseases with Cardiac Manifestations 2	See e-Reading list	

Week 12 - 30 May 2022

Module/Topic	Chapter	Events and Submissions/Topic

		Echocardiographic Skills Assessment scheduled week 12
Revision and In-class Test Preparation		**Professional Behaviour and Lab Documentation** due Friday 3rd June, 5pm AEST **Formative Feedback and Self-Reflection** due Friday 3rd June, 5pm AEST
Review/Exam Week - 06 Jun 2022		
Module/Topic	**Chapter**	**Events and Submissions/Topic**
		In-class Test 2 Tuesday 7th June at 9am local campus time
Exam Week - 13 Jun 2022		
Module/Topic	**Chapter**	**Events and Submissions/Topic**

Term Specific Information

The unit coordinator for ECHO13006 Adult Echocardiography is Tarryn Cremin. The most efficient and preferred method of contacting Tarryn is via the Q&A forum located on the unit Moodle site. If the query is personal in nature, please contact Tarryn directly via email (t.cremin@cqu.edu.au). Tarryn is available Monday to Thursday.

Lectures are used to present the core information for weekly study, outlining the main theories and principles of the topic under consideration. Weekly revision material is provided and should be attempted to assist in preparation for the in-class tests and other assessments. Note, no new lecture material will be presented during week 12 of term as this week will be used to prepare for the final in-class test.

Tutorials for this unit will be delivered 'live' online using Zoom. Links required for accessing the tutorials are provided on the Moodle site under the Virtual Classes tile. Tutorials will focus on discussing the weekly content including revision questions, developing echocardiographic image interpretation skills, and contextualisation of key concepts in preparation for related assessments and clinical placement.

Tutorials provide an opportunity for discussion and interaction with other students and the tutor. It is important students take advantage of these interactive sessions and participate fully in order to broaden knowledge and experience with the course material. Any questions posted to the Q&A forum or emailed to the unit coordinator will be used to guide content included in the weekly tutorials.

Note: Tutorials are recorded for educational purposes. Recordings of Zoom tutorials may be uploaded and appear on Echo360, Moodle, YouTube and Microsoft Teams. Students who do not wish to be recorded are advised to turn off their webcam, audio or both during the session. Participation will signify consent to the recording and publication for educational purposes.

Please ensure you review the 'Welcome' video and 'Breakdown of Assessments' video, available on the Moodle site, for further unit specific information.

Assessment Tasks

1 In-class Test 1

Assessment Type
In-class Test(s)

Task Description
This test will be an online test performed in-class with closed book conditions at the campus of your enrolment. It will examine all content from **weeks 1 to 5 inclusive.**

The test will examine the theory and application of content and haemodynamic concepts taught in lectures, discussed in tutorial delivery and practised in the simulated laboratory setting. Questions may require you to perform mathematical calculations, interpret patient data, illustrate concepts or provide explanations and discussions. Questions similar in style to those found in the in-class test are provided in the haemodynamic workbook and in weekly revision material on the Moodle site. Question examples will also be discussed during the tutorial and laboratory sessions to help prepare for this assessment task.

This in-class test will assess the students' ability to :

- differentiate and discuss the aetiology, pathophysiology and echocardiographic assessment processes associated with a variety of cardiovascular diseases
- analyse case-based clinical information to formulate differential diagnoses
- interrogate measurements supplied
- accurately apply appropriate haemodynamic calculations and interpret resulting values
- demonstrate clinical reasoning
- use appropriate terminology and descriptors as well as grammar and spelling.

This test will be **150 minutes** duration and comprises 50% of the final unit grade. You will require a simple calculator (not a scientific calculator) for this test.

Assessment Due Date

Week 6, Tuesday 19th April at 9am local campus time

Return Date to Students

Results will be available within two weeks of the due date. The online test question pool in its entirely will not be released to students.

Weighting
50%

Minimum mark or grade
50%

Assessment Criteria
This test will be conducted at campus of enrolment, under examination conditions as detailed in the CQU Assessment Procedures. The test must be performed at the timetabled date and time. As per the Assessment Procedures, this task is to be completed during a defined period. There is no opportunity to apply a late penalty. If you arrive late, you may enter the test room up to 30 minutes after the start of the test; you will still be required to submit your test at the preset completion time. You will not be allowed entry more than 30 minutes after the test starts. In the absence of an approved extension, you cannot complete this assessment at a later time, and you will receive a mark of zero (0) for the assessment if you have not completed it by the scheduled date and time.

The allocated number of marks for each question is indicated on the test paper. Marks are allocated based on accuracy, depth and breadth of the required response.

Referencing Style

- Vancouver

Submission
Online

Submission Instructions
In-class online test 1 to be performed at campus of enrolment. Closed book conditions.

Learning Outcomes Assessed

- Differentiate between the aetiology, pathophysiology and echocardiographic assessment process associated with a variety of cardiovascular disease processes
- Perform and interpret measurements and advanced haemodynamic calculations applied to 2D, colour and spectral Doppler derived echocardiographic measures
- Differentiate prosthetic valve and valvular surgical intervention functionality and disease processes
- Analyse case-based clinical information to formulate differential diagnoses and plan patient management

Graduate Attributes

- Communication

- Problem Solving
- Critical Thinking
- Information Literacy
- Information Technology Competence

2 In-class Test 2

Assessment Type
In-class Test(s)

Task Description
This test will be an online test performed in-class with closed book conditions at the campus of your enrolment. It will examine all content from **weeks 6 to 12 inclusive**.

The test will examine the theory and application of content and haemodynamic concepts taught in lectures, discussed in tutorial delivery and practised in the simulated laboratory setting. Questions may require you to perform mathematical calculations, interpret patient data, illustrate concepts or provide explanations and discussions. Questions similar in style to those found in the in-class test are provided in the haemodynamic workbook and in weekly revision material on the Moodle site. Question examples will also be discussed during the tutorial and laboratory sessions to help prepare for this assessment task.

This in-class test will assess the students' ability to :

- differentiate and discuss the aetiology, pathophysiology and echocardiographic assessment processes associated with a variety of cardiovascular diseases
- analyse case-based clinical information to formulate differential diagnoses
- interrogate measurements supplied
- accurately apply appropriate haemodynamic calculations and interpret resulting values
- demonstrate clinical reasoning
- use appropriate terminology and descriptors as well as grammar and spelling.

This test will be **180 minutes** duration and comprises 50% of the final unit grade. You will require a simple calculator (not a scientific calculator) for this test.

Assessment Due Date

Examination block, Tuesday 7th June at 9am local campus time

Return Date to Students

Results will be available within two weeks of the due date. The online test question pool in its entirely will not be released to students.

Weighting
50%

Minimum mark or grade
50%

Assessment Criteria
This test will be conducted at campus of enrolment, under examination conditions as detailed in the CQU Assessment Procedures. The test must be performed at the timetabled date and time. As per the Assessment Procedures, this task is to be completed during a defined period. There is no opportunity to apply a late penalty. If you arrive late, you may enter the test room up to 30 minutes after the start of the test; you will still be required to submit your test at the preset completion time. You will not be allowed entry more than 30 minutes after the test starts. In the absence of an approved extension, you cannot complete this assessment at a later time, and you will receive a mark of zero (0) for the assessment if you have not completed it by the scheduled date and time.

The allocated number of marks for each question is indicated on the test paper. Marks are allocated based on accuracy, depth and breadth of the required response.

Referencing Style

- Vancouver

Submission
Online

Submission Instructions
In-class online test 2 to be performed at campus of enrolment. Closed book conditions.

Learning Outcomes Assessed

- Differentiate between the aetiology, pathophysiology and echocardiographic assessment process associated with a variety of cardiovascular disease processes
- Perform and interpret measurements and advanced haemodynamic calculations applied to 2D, colour and spectral Doppler derived echocardiographic measures
- Differentiate prosthetic valve and valvular surgical intervention functionality and disease processes
- Analyse case-based clinical information to formulate differential diagnoses and plan patient management

Graduate Attributes

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

3 Echocardiography Skills Assessment

Assessment Type
Practical Assessment

Task Description
The Echocardiographic Skills Assessment is comprised of two parts— Part A 'Practical' and Part B 'Measurement Performance and Interpretation'— and involves completing an echocardiogram, image interpretation and measurement performance.

This practical assessment has been developed with consideration of the Dreyfus Model of Skill Acquisition[1], 2021 Professional Competency Framework for Sonographers[2] and the best practice guidelines published by the American Society of Echocardiography (ASE)[3].

Students enrolled in ECHO13006 are working towards attainment of **Advanced Beginner level of competency**. Students enter this unit with prior cardiac ultrasound imaging experience (including 2D, Mmode, colour and spectral Doppler), and familiarity with cardiac anatomy/physiology and some common cardiac pathologies.

Students will upskill at different rates during lab delivery. Those that engage in all compulsory tuition and practice sessional offerings (manned and unmanned), and who make time for reflective practice, are more likely to achieve success. In conjunction with practical skills training in simulation, students accumulate theoretical knowledge about comprehensive echocardiographic assessment and measurement application through unit enrolment. This information needs to be mentally accessible to achieve skill acquisition and enable correct measurement performance.

At this stage of practical training, students are growing in confidence. Students are scanning more intuitively, protocol recall is automatic, and focus is on refining techniques and improving proficiency. Students are exploring application of the Pedof probe and are more aware of their own limitations, knowing what they should and ‘can do’. Time management is less of a problem during scanning performance and students will simultaneously aim to perfect image orientation, optimisation, and acquisition. Students less frequently struggle to hold the underlying 2D image as they add other imaging modalities. Students are constructing links between mechanical and electrical events, colour blood flow patterns and displayed spectral Doppler waveforms. Students are aware of scan limitations and are integrating learned knowledge in to simulated practice.

Students are more aware of measurement limitations and know what they should and ‘can do’. Case studies are employed in tutor discussions— incorporating pathology presentation and challenging students to measure, quantify and interpret echocardiographic examination outcomes. Students are beginning to make connections between assessment outcomes and clinical presentation of patients in the simulated context, in preparation for clinical practice. While measurement skills learnt previously are more likely to be performed proficiently, students may struggle with time management as they integrate interpretation requirements which necessitate performance of simple calculations and reference to best practice guidelines. Representative image storage and outcome transcription is more likely to be accurate, with students intuitively paying attention to detail.

Satisfactory practical skills must be demonstrated in ECHO13006 to permit skills transfer and scaffolding in subsequent clinical placement units. In particular, students must be scanning and performing offline measurements proficiently and to an adequate competence level to ensure patient safety and accurate diagnostic test outcomes. Knowledge and skills

learnt in ECHO13006 are assumed in subsequent clinical placement units and will continue to be built upon as students work toward graduation.

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1. Dreyfus S. The Five-Stage Model of Adult Skill Acquisition. Bulletin of Science, Technology & Society. 2004;24(3):177-181.
2. Childs, Jessie; Thoirs, Kerry; Osborne, Brooke; Halligan, Toni; Stoodley, Paul; Quinton, Ann; et al. (2021): Professional Competency Framework for Sonographers. figshare. Online resource. https://doi.org/10.6084/m9.figshare.17148035.v2
3. American Society of Echocardiography. Organization of professionals committed to excellence in cardiovascular ultrasound [Internet]. Asecho.org. 2022 [cited 6 January 2022]. Available from: https://www.asecho.org/

PART A - Practical
Part A of the Echocardiography Skills Assessment incorporates both a Professional and Technical component and requires students to perform a comprehensive 2D, colour and spectral Doppler echocardiographic examination using ultrasound equipment.

The student will have 60 minutes in total to complete both professional and technical components:

- 5 minutes to complete the professional component
- 55 minutes to complete the ECHO13006 2D, colour and spectral Doppler imaging protocol.

Professional Component
The Professional component of the assessment evaluates performance aspects of the sonographic exam such as communication (verbal, non-verbal, and written), professional behaviour, ergonomics, and patient care skills. This is an assessment of pre-scan, scanning, and post-scan skills.

Technical Component
The Technical component of the assessment evaluates the students' scanning technique, image optimisation, and ability to complete a comprehensive Echocardiogram within a reasonable set time to a 'Advanced Beginner level' of competency.

- The ARC tool details both the required imaging sequence and performance criteria cues.
- Except for panning or sector sweeps, which are critiqued live or via video recording moderation, the collection of images stored by the student represent the echocardiographic examination performed.
- At the end of the examination the supervising tutor will acquire a variety of representative images. These images will be labelled as 'acquired by tutor' and will be used during marking and moderation to ascertain achievable image quality.

PART B - Interpretation and Measurement Performance
Part B of the Echocardiography Skills Assessment incorporates both a Measurement Performance and Interpretation component. Students are required to accurately interpret echocardiographic images and measurement outcomes, in addition to accurately performing their own echocardiography measurements offline using discipline specific analysis software.

Students have 50 minutes to complete both the measurement performance and interpretation components, to save appropriate images to a labelled folder, and to transcribe measurement or interpretation outcomes onto the worksheet provided.

Measurement Performance Component
The Measurement Performance component requires students to apply best practice guidelines when undertaking routine measurements on echocardiographic images using Q-Station discipline specific software. Students are required to save measurement images to a desktop folder and transcribe these measurements onto a provided worksheet replicating clinical documentation.

- Students are required to perform measurements. The ARC tool details measurements that must be attempted and performance criteria cues.
- Students must transcribe these measurements onto a provided worksheet replicating clinical documentation.
- The collection of images stored by the student represent the measurement examination performed.

Interpretation Component
The Interpretation component requires students to evaluate and interpret echocardiography images presented using Q-station discipline specific software. Students are required to:

- Recall common reference ranges for cardiac chamber quantification, systolic function evaluation and right heart pressure estimation.
- Apply ASE Diastolic Function Algorithms (a copy of which will be supplied under assessment conditions).
- Recognise limitations of provided images and measurements.
- Document interpretation using discipline specific conventions, including rationale, onto a provided worksheet replicating clinical reporting.

Students are advised to refer to the 'Assessment Policy and Procedure (Higher Education Coursework) document for additional university guidelines regarding assessments.

- In the absence of an approved extension, this assessment cannot be completed at a later time.
- Students will receive a FAIL for this assessment if it is not completed by the scheduled date and time and there is no approved extension.
- Should a student FAIL there will be only ONE opportunity to re-sit the failed component of the assessment item.

Assessment Due Date

Week 12. Students will be advised of scheduling via the unit Moodle site.

Return Date to Students

Results will be available within two weeks of the due date. Re-sit assessments will be held during the end of term exam week on 15th and/or 16th June 2022.

Weighting
Pass/Fail

Assessment Criteria
THIS IS A PASS/FAIL ASSESSMENT. Students will be assessed using the:

- Part A Practical Assessment of Readiness for Clinical (ARC) Tool
- Part B Interpretation and Measurement Performance ARC Tool

Students are advised to carefully review these documents which are available on the unit Moodle site.

PART A - Practical
To pass Part A of this assessment, a student must be deemed competent in both the Professional and Technical components.

- To pass the Professional and Technical component, all criteria must be demonstrated.

The Professional and Technical components are graded separately so that if one is passed and the other is not, only the failed component must be repeated to pass.

There is only ONE opportunity to re-sit either component of this assessment item.

PART B - Measurement Performance and Interpretation
To pass this assessment, a student must be deemed competent in both the Measurement Performance and Interpretation components.

- To pass the Measurement Performance and Interpretation component, all criteria must be demonstrated.
- If multiple images of a single measurement are saved, only the image corresponding to the measurement transcribed on the worksheet will be assessed.

The Measurement Performance and Interpretation components are graded in combination so that if failed, both components of assessment Part B must be repeated to pass.

There is only ONE opportunity to re-sit this assessment item.

MOCK Examination
Students will be provided with a single opportunity to attempt the Echocardiography Skills Assessment under MOCK examination conditions.

The MOCK assessment will be delivered as part of the routine laboratory sessions. There is no opportunity for rescheduling of missed laboratory sessions.

- Individual feedback will be provided to students after completing the MOCK assessments.
- Scanning feedback will be provided verbally by the tutor supervising each individual student MOCK practical scanning assessment.
- Students will receive a completed MOCK Part A (Practical) ARC tool and MOCK Part B (Measurement Performance and Interpretation) ARC tool following moderation.

Part A (Practical) of the Echocardiography Skills Assessment will be video recorded for moderation purposes. The videos will not be released to students for review.

All students are required to make themselves available to act as a patient model for peer assessments. Students must additionally make themselves available for re-sit assessments if requested by the unit coordinator.

Referencing Style

- Vancouver

Submission
No submission method provided.

Learning Outcomes Assessed

- Perform and interpret measurements and advanced haemodynamic calculations applied to 2D, colour and spectral Doppler derived echocardiographic measures
- Perform an echocardiographic examination efficiently and effectively

Graduate Attributes

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

4 Professional Behaviour and Lab Documentation

Assessment Type
Performance

Task Description
The purpose of this assessment is to ensure that students from the echocardiography course are well-equipped to embody the high standards of professionalism that are expected from CQUniversity students while on their upcoming clinical placements.

Professional behaviour is a critical part of any medical imaging profession and encompasses the manner in which we treat our colleagues, patients and the professional setting and equipment provided to us.

This assessment will require students to treat each of the lab sessions as a scheduled "work shift" and to exhibit high quality professional attributes. This is to ensure students are adequately prepared to enter the work force with the skills required to provide safe patient care and professional behaviour.

- This assessment is based on a continuous and ongoing evaluation of student application and attendance during labs and behaviour exhibited during the time spent studying this unit, up until the completion of all formal assessments.
- This includes participation in forums and online tutorials, labs, social media etiquette, phone calls, attitude toward peers and staff, and all official correspondence with university staff, peers and the community.

This assessment will require students to complete the following documentation which forms part of the ECHO13006 Lab Manual. All forms are available under the Lab Documentation tab on the unit Moodle page. Students are required to submit the following four (4) individual documents:

1. A signed **Lab Agreement Form**
2. A signed **Consent Form - Sonographic Examination for Teaching Purposes**
3. A completed and signed **Professional Behaviour Assessment Rubric** form

4. A completed **Lab Attendance Page**

Absenteeism
Skills labs for this unit are mandatory. Students must advise the unit coordinator before the start of compulsory labs if unable to attend - failure to notify staff (email or phone) before the start of a missed lab will result in a LiP (Lapse in Professionalism) except in extraordinary circumstances. Labs missed for a valid reason (eg. illness or injury) require supporting documentation. There is no opportunity to 'make up' missed lab sessions. Medical or health-related certificates must be in the approved formats articulated in the CQUniversity Assessment Policy and Procedure (HE Coursework), section 5.

Any missed labs must be clearly marked on the Lab Attendance Page and Reflective Feedback Form. A tutor's signature is not required.

Assessment Due Date

Lab Agreement Form and Consent Form - Sonographic Examination for Teaching Purposes are due Friday 5pm (AEST) Week 1. Professional Behaviour Assessment Rubric Form and Lab Attendance Form due Friday 5pm (AEST) Week 12.

Return Date to Students

Within 7 days of due date.

Weighting
Pass/Fail

Assessment Criteria
This assessment is marked using the Professional Behaviour Assessment (PBA) rubric and incorporates any Lapse in Professionalism (LiP). To pass this unit students need to achieve 12/15 or higher for the PBA and can receive a maximum of three LiPs across all descriptors. If a fourth LiP is issued, the maximum mark achievable would be 11/15 and the assessment will be graded as a FAIL.

All interactions with staff and peers pertaining to this unit will be treated as a replica of the clinical work environment. Students are expected to demonstrate all of the professional behaviour that will be expected in a formal work environment.

LiPs can be issued in three different categories:

1. Professional behaviour towards colleagues and staff
2. Professional behaviour towards patients
3. Professional behaviour towards professional setting and equipment

An additional explanatory document is available on the Moodle site regarding 'Expected Professional Behaviour and LiP Allocation'. Students are encouraged to review this information to be sure of behavioural expectations. Students should be familiar with the Code of Conduct in the Lab Manual as well as the ASA Code of Conduct and the CQU Code of Conduct. All of these documents are posted on the unit Moodle site.

If unprofessional attitude or behaviour is reported by fellow classmates and not witnessed by a staff member, a written warning detailing the allegations will be issued to the student. The student's response will be documented. If further evidence of an ongoing unprofessional behaviour arises then a LiP may be awarded. Any lack of professionalism display in the use of unmanned practice bookings will result in an automatic LiP (eg. changing the booking of another student without consent, or accessing labs in excess of allocated entitlements).

If any exhibited attitude or behaviour is deemed as unsafe or inappropriate for clinical practice, the professional behaviour assessment will be graded as a FAIL at the discretion of the unit coordinator. Exemplary professional behaviour is highly valued by clinical supervisors. This information may be used to endorse students for placements if requested by clinical sites.

- To obtain a 'PASS' all documentation must be completed correctly and submitted by the due date and time.
- No more than three (3) Lapses in Professionalism are permitted to pass the unit.
- All documents must be legible, labelled appropriately and uploaded in PDF format.

Referencing Style

- Vancouver

Submission
Online

Submission Instructions
All documents must be apprpriately labelled with student name, student number and document descriptor (eg. JohnSMITH_S12345_LabAgreementForm). Documentation must be individually submitted as PDF documents. JPEG is not acceptable. A total of four (4) individual PDF document submissions is required.

Learning Outcomes Assessed

- Display professional behaviour, teamwork and communication skills consistent with safe practice

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking
- Team Work
- Cross Cultural Competence
- Ethical practice

5 Formative Feedback and Self-Reflection

Assessment Type
Reflective Practice Assignment

Task Description
The ability to set goals, self-reflect and adopt feedback are tools to aid the progress of knowledge and skill development. These abilities also address industry requirements, whereby professionals must perform continuing professional development (CPD) activities. Students are to develop goal-setting, reflection and feedback skills through weekly activities.

This assessment will require students to complete and submit the following forms, available on the Moodle site:

- Seven (7) **Formative Feedback Forms** (one for each laboratory session); each form must include self-reflection and goal-setting, tutor feedback and signature.
- The **Mock Assessment Reflection Form**; this form must include reflection on areas of strength and areas for improvements in preparation for the Echocardiography Skills Assessment.

Assessment Due Date

Friday 5pm (AEST) Week 12

Return Date to Students

Results will be available within two weeks of the due date.

Weighting
Pass/Fail

Assessment Criteria

- To obtain a 'PASS' all documentation must be completed correctly and submitted by the due date and time.
- All documents must be legible, labelled appropriately and uploaded in PDF format.

Referencing Style

- Vancouver

Submission
Online

Submission Instructions
All documents must be appropriately labelled with student name, student number and document descriptor (eg. JohnSMITH_S12345_ReflectiveFeedback). Documentation must be individually submitted as PDF documents. JPEG is not acceptable.

Learning Outcomes Assessed

- Apply reflective feedback to professional practice improvement.

Graduate Attributes

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

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