



ECHO12006 Cardiac Science

Term 1 - 2024

Profile information current as at 29/07/2024 03:53 pm

All details in this unit profile for ECHO12006 have been officially approved by CQU University 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

The accurate diagnosis of cardiac conditions requires comprehensive knowledge of cardiac pathophysiology, and the outcomes of a variety of cardiovascular assessment procedures. In this unit you will be introduced to cardiac assessment within the catheterisation laboratory. You will learn how to interpret a 12-lead electrocardiogram (ECG), and how to assess cardiac structure and function by performing a two-dimensional echocardiographic examination. Within the ethical framework of best practice, you will examine simulated case-based clinical information. You will explore the outcomes of cardiac diagnostic procedures, formulate differential diagnoses and patient management strategies for a variety of common cardiovascular pathologies. Attendance at practical activities is a requirement of this unit.

Details

Career Level: *Undergraduate*

Unit Level: *Level 2*

Credit Points: *12*

Student Contribution Band: *8*

Fraction of Full-Time Student Load: *0.25*

Pre-requisites or Co-requisites

Pre-requisite ECHO11002 Cardiac Structure and Function and ECHO11003 Fundamentals of Cardiac Science
Co-requisite 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 - 2024

- Brisbane
- 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. **Online Quiz(zes)**

Weighting: 20%

2. **Written Assessment**

Weighting: 30%

3. **Practical Assessment**

Weighting: Pass/Fail

4. **Performance**

Weighting: Pass/Fail

5. **Reflective Practice Assignment**

Weighting: Pass/Fail

6. **Examination**

Weighting: 50%

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 My Experience and SUTE feedback

Feedback

The lecture's face covers information on some lecture slides.

Recommendation

Lectures should continue to be reviewed with attention to slide content visibility.

Feedback from My Experience and Student

Feedback

The quality of ECG traces on the ECG quiz made it difficult to see the squares on some of the ECGs.

Recommendation

The format of saving and displaying ECGs should continue to be reviewed with resolution and image size being taken into consideration. Students should continue to be reminded that a larger screen such as a PC or laptop and a faster internet connection will improve the quality of the image displayed and the loading time of the ECGs.

Feedback from SUTE Feedback

Feedback

Students felt there was a large amount of content

Recommendation

Students should continue to be reminded of the significant study commitment involved in a 12-credit point unit. Study planners are available on Moodle and students should be encouraged to continue to utilise this resource to assist in planning study commitments.

Unit Learning Outcomes

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

1. Perform the standard two-dimensional echocardiographic protocol including associated anatomical quantification.
2. Formulate and evaluate reasoned arguments for the exclusion of artefactual and discordant two-dimensional echocardiographic findings.
3. Analyse case-based clinical information to formulate differential diagnoses and plan patient management strategies for a variety of common cardiovascular pathologies.
4. Discuss common cardiac catheterisation procedures including radiation safety.
5. Analyse the output of 12-lead electrocardiogram (ECG) studies.
6. Apply 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



Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes						
	1	2	3	4	5	6	7
1 - Online Quiz(zes) - 20%					•		
2 - Written Assessment - 30%			•	•	•		•
3 - Practical Assessment - 0%	•	•				•	
4 - Performance - 0%						•	
5 - Reflective Practice Assignment - 0%							•
6 - Examination - 50%		•	•	•			

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		•	•	•	•		•
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

ECHO12006

Prescribed

12-lead ECG. The Art of interpretation

Edition: 2nd (2015)

Authors: Garcia

Jones & Bartlett Learning

Burlington , MA , United States of America

ISBN: 9780763773519

Binding: Other

ECHO12006

Prescribed

A Sonographer's Guide to the Assessment of Heart Disease

Edition: 1st (2016)

Authors: Anderson

Echotext Pty Ltd

Australia

ISBN: 9780992322205

Binding: Hardcover

ECHO12006

Prescribed

Echocardiography: The Normal Examination and Echocardiographic Measurements

Edition: 3rd (2017)

Authors: Anderson

Echotext Pty Ltd

Australia

ISBN: 9780992322212

Binding: Hardcover

ECHO12006

Prescribed

The Cardiac Catheterisation Handbook

Edition: 6th (2016)

Authors: Kern, Sorajja, Lim

Elsevier

Philadelphia , PA , United States of America

ISBN: 9780323340397

Binding: eBook

[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

Katrina Cumins Unit Coordinator
k.cumins@cqu.edu.au

Schedule

Week 1 - 04 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
CCL: Purpose, procedures, and equipment. ECG: ECG interpretation: The basics. P waves. Echo: Echocardiographic windows and M-mode and two-dimensional protocol, M-mode and two-dimensional image optimisation, and M-mode measurements.	See eReading List via Moodle.	Laboratory Agreement Form and Consent Form to be completed during the first laboratory session in week 1.

Week 2 - 11 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
CCL: Radiation. ECG: P-R interval, Q waves, QRS Complex. Echo: M-mode and two-dimensional left heart measurements.	See eReading List via Moodle.	

Week 3 - 18 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
CCL: haemodynamics. ECG: ST segment, T waves, Q-T interval. Echo: M-mode and two-dimensional right heart measurements.	See eReading List via Moodle.	

Week 4 - 25 Mar 2024

Module/Topic	Chapter	Events and Submissions/Topic
CCL: Pressure transducers. ECG: Interpretation. Echo: Advanced two-dimensional image optimisation, cardiac anatomical variants, and sonographer ergonomics.	See eReading List via Moodle.	

Week 5 - 01 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
CCL: Determining cardiac output (CO). ECG: Identifying arrhythmias. Echo: Two-dimensional assessment of left ventricular regional wall motion abnormalities.	See eReading List via Moodle.	

Vacation Week - 08 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
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Week 6 - 15 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
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ECG Online Quiz will open at 8:00 am (AEST) on Tuesday 16th April and will close at 8:00 pm (AEST) Friday 19th April 2024.

Echo: Assessment of chest pain See eReading List via Moodle.

Week 7 - 22 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Echo: M-mode and two-dimensional assessment of aortic valve anatomy and disease, and aortopathies.	See eReading List via Moodle.	

Week 8 - 29 Apr 2024

Module/Topic	Chapter	Events and Submissions/Topic
Echo: M-mode and two-dimensional assessment of mitral valve anatomy and disease.	See eReading List via Moodle.	

Week 9 - 06 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Echo: M-mode and two-dimensional assessment of tricuspid and pulmonary valve anatomy and disease.	See eReading List via Moodle.	Echocardiographic Skills Assessment scheduled week 9

Week 10 - 13 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Echo: Pericardial effusions.	See eReading List via Moodle.	Written assessment Due: Monday 13th May at 8:00 pm (AEST).

Week 11 - 20 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Echo: Two-dimensional assessment of cardiac masses.	See eReading List via Moodle.	

Week 12 - 27 May 2024

Module/Topic	Chapter	Events and Submissions/Topic
Revision		<p>Echocardiographic Skills Assessment Re-sit scheduled week 12</p> <p>Professional Behaviour and Laboratory Attendance Forms are to be completed and uploaded to Moodle by 8:00 pm (AEST) Thursday 30th May 2024.</p> <p>Formative Feedback and Self-Reflection Due: Week 12 Thursday (30 May 2024) 8:00 pm AEST</p>

Review/Exam Week - 03 Jun 2024

Module/Topic	Chapter	Events and Submissions/Topic
		Examination timetable can be accessed through MyCQU Calender .

Exam Week - 10 Jun 2024

Module/Topic	Chapter	Events and Submissions/Topic

Term Specific Information

The Unit Coordinator for ECHO12006 is Katrina Cumins. The most efficient and preferred method of contacting Katrina, and other staff involved in the running of this unit, is via the Q&A forum located on the unit Moodle site. If your query is of a personal nature, please contact Katrina directly via email (k.cumins@cqu.edu.au). While Katrina will endeavour to deal with all enquiries as soon as possible, please be aware she works a three-day week at CQUniversity, Monday - Wednesday.

Multiple academic staff will be providing presentations and hosting tutorials as part of this unit's delivery. Contact details for other academic staff can be found on the Moodle site.

Students are encouraged to use the Learning Community Q&A forum on the ECHO12006 Moodle site as the first point of contact. Prioritising the forum allows the entire cohort to view and benefit from questions and answers. Forums are monitored and responses will be provided in a timely manner. Students are encouraged to review the CQUniversity Student Charter and follow advice on appropriate conduct within the university environment (on-campus and online).

ECHO12006 consists of weekly lectures, readings, live tutorials, and laboratory sessions. Lectures present central information, with essential and supporting resources outlined on the ECHO12006 eReading List. Tutorials are held via Zoom, with specific meeting times and access details posted on the ECHO12006 Moodle site under Virtual Classes. Tutorials are designed to be interactive and focus on the clarification of unit concepts, application of knowledge, and preparation for assessments. Tutorials are recorded for educational purposes and may be posted on the ECHO12006 Moodle site. If you have concerns about being recorded please adjust your audio/visual settings as appropriate. Your participation implies consent for recorded tutorials.

The laboratory induction and all laboratory sessions for ECHO12006 are mandatory. The Mandatory Laboratory Induction must be completed during the first laboratory session. Laboratory Documents (Laboratory Agreement Form + Consent Form) are available on the ECHO12006 Moodle site and must be completed before accessing ECHO12006 on-campus activities. Please review the Laboratory Resources tile on the ECHO12006 Moodle site. Laboratory sessions that are not attended must be accompanied by appropriate documentation and cannot be attended at a later date. All students are to demonstrate appropriate professional behaviour, including appropriate dress (see the CV69 Course Dress Code). All students must be available to act as a patient model throughout the term, as well as during mock practical assessments, practical assessments and re-sit practical assessments.

Further unit information is available on the ECHO12006 Moodle site.

Assessment Tasks

1 Online Quiz

Assessment Type

Online Quiz(zes)

Task Description

The ability to correctly analyse, interpret and understand a 12-lead electrocardiogram (ECG) and background theory is crucial in a professional cardiac diagnostic role. Comprehensive ECG analysis and interpretation can provide vital information about the location and nature of heart disease.

Students will be required to recall relevant theoretical concepts as well as perform accurate ECG interpretation following a methodological approach as outlined in lectures. The Online Quiz will assess all ECG content in weeks 1-6 inclusive.

Students will have 100 minutes to complete the quiz once it is started.

- This assessment is open book. You may benefit from having normal Electrocardiographic reference ranges and a calculator available when attempting the quiz.
- This assessment is to be undertaken as an individual. As with all other university assessments, colluding with other students on non-group work tasks is considered academic misconduct, and may lead to action being taken

by the Deputy Dean of Learning and Teaching HMAS.

It is important that you commence the Online Quiz before 6:20 pm (AEST) on Friday the 19th of April 2024. If you have not completed the test by this time, your test may be submitted incomplete or with no answers. Please note:

- Once started, the quiz cannot be paused or restarted
- Only one attempt is permitted
- The Online Quiz will automatically close at 8:00 pm (AEST) on Friday the 19th of April 2024.

In the absence of an approved extension, the ECG Online Quiz cannot be completed at a later time.

Students are reminded that IT support from the university Information and Technology Division (TASAC) is only available during AEST business hours.

- If attempt issues occur outside of business hours, students should immediately email the Unit Coordinator documenting difficulties.
- Advice should include the date and time of the incident and a screenshot from the PC display if an error is evident.
- Incidents will be considered on a case-by-case basis. There is no guarantee extra quiz attempts will be offered.

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

Number of Quizzes

1

Frequency of Quizzes

Other

Assessment Due Date

The ECG Online Quiz will open at 8:00 am (AEST) on Tuesday 16th April and will close at 8:00 pm (AEST) Friday 19th April 2024.

Return Date to Students

Feedback will be provided to students within two weeks of submission.

Weighting

20%

Minimum mark or grade

50%

Assessment Criteria

Students will be assessed on their ability to recall theory and accurately interpret a 12-lead ECG using the methodological approach available on Moodle. Marks will be awarded based on the student's ability to:

- Recall 12-lead ECG theory
- Analyse calibration settings;
- Analyse cardiac rhythm, rate, and axis;
- Identify common arrhythmias; and
- Utilise correct terminology in interpreting ECG waveforms, segments, intervals, and associated anomalies.

The Online Quiz will be accessible through the assessment tab on Moodle.

Referencing Style

- [Vancouver](#)

Submission

No submission method provided.

Learning Outcomes Assessed

- Analyse the output of 12-lead electrocardiogram (ECG) studies.

2 Written Assessment

Assessment Type

Written Assessment

Task Description

This written assessment task requires you to explore a range of common cardiovascular pathologies. You will be required to analyse provided case-based clinical information, including the outcomes of a variety of cardiac diagnostic testing procedures. Conclusions will be used to confirm patient diagnosis and strategise plausible management strategies.

Case Study:

The patient is an unwell 86-year-old male with a BSA of 1.7m². The patient has presented with severe hypertension and a loud systolic murmur. In addition to other tests, the general practitioner (GP) has ordered both a cardiac ultrasound and a 12-lead electrocardiogram (ECG) to evaluate the murmur, and to exclude secondary left ventricular hypertrophy (LVH).

The GP is concerned. The patient may be suffering from a cardiac condition such as hypertrophic cardiomyopathy with outflow tract obstruction (HOCM) or aortic stenosis (AS). Both these conditions can cause hypertension and a systolic murmur. These differential diagnoses must be excluded.

Selected diagnostic imaging and testing outcomes can be viewed on the unit Moodle site under the Assessment tile.

Considering the 2D echocardiographic findings presented:

1. Which cardiac condition (HOCM or AS) does the patient have? Justify your answer.
2. Propose two (2) possible disease aetiologies.
3. Describe the symptomatic presentation commonly associated with this cardiac condition.
4. Discuss the pathophysiology of this cardiac condition, explaining why left ventricular hypertrophy (LVH) develops in response to this anomaly.
5. Describe the 12 lead ECG findings associated with LVH. Explain why these findings are present in LVH.
6. Quantify the LVH severity present and in doing so, identify any erroneous echocardiographic measurement data presented. Include rationale for your conclusions.

If not treated the mortality rates are high as this cardiac disease progresses. In this clinical setting, a cardiac catheterisation may also be done to evaluate and possibly repair the underlying cardiac condition.

1. Identify and describe a percutaneous cardiac catheterisation procedure, that might offer an alternative to surgical intervention in this patient. Include in your response, the several risks and benefits associated with this procedure.
2. After the patient undergoes treatment (surgical or transcatheter) for this cardiac condition, is left ventricular hypertrophy likely to increase or decrease over time? Justify your answer.

The written assessment must be presented in a scholarly manner. Accurate spelling and grammar, use of discipline-specific language, paraphrasing and referencing including intext citation must be demonstrated.

Research for this assessment task is to be limited to:

- The literature sources provided on the unit Moodle eReading list (including prescribed textbooks)
- No more than 3 additional independently sourced journal articles.

Gen AI must not be used to generate your assessment task response.

Word Count 1400 (+/- 10%)

The reference list is not included in the word count. Content beyond the word limit will not be marked.

Assessment Due Date

Written assessment is due Monday 13th May 2024 at 8:00 pm (AEST).

Return Date to Students

Feedback will be provided to students within two weeks of submission.

Weighting

30%

Minimum mark or grade

50%

Assessment Criteria

A detailed marking rubric is published on the ECHO12006 Moodle site, with grading based on the student's ability to:

- Analyse and discuss cardiovascular findings;
- Research and evaluate topics;
- Apply academic referencing protocols;
- Apply scholarly presentation standards; and
- Apply critical reflection to practice.

Referencing Style

- [Vancouver](#)

Submission

Online

Submission Instructions

All documents must be appropriately labelled with student name, student number and document descriptor (eg. JohnSMITH_S12345_Written Assessment). Document must be submitted as Word documents. PDF is not acceptable.

Learning Outcomes Assessed

- Analyse case-based clinical information to formulate differential diagnoses and plan patient management strategies for a variety of common cardiovascular pathologies.
- Discuss common cardiac catheterisation procedures including radiation safety.
- Analyse the output of 12-lead electrocardiogram (ECG) studies.
- Apply reflective feedback to professional practice improvement.

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'. Part A involves the completion of a complete M-mode and two-dimensional echocardiographic protocol. Part B involves M-mode and two-dimensional measurement performance.

Students will be assessed according to the Assessment of Readiness for Clinical (ARC) tools, which are available on the unit Moodle site. These documents detail performance criteria the student must demonstrate competence in to pass the assessment. Student competence is assessed in relation to the expectations specific to this unit of study. Students enrolled in ECHO12006 are working towards the attainment of a **Novice level of competency**, as detailed in the ARC tools.

PART A - Practical

Part A of the Echocardiography Skills Assessment incorporates both a Professional and Technical component and requires students to perform a complete M-mode and two-dimensional echocardiographic examination using ultrasound equipment. Students have 70 minutes in total to complete both the Professional and Technical components.

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 encompasses an assessment of pre-scan, scanning, and post-scan skills.

Technical Component

The technical component of the assessment evaluates the student's scanning technique, image optimisation, and ability to complete a M-mode and two-dimensional echocardiogram within a reasonable set time to a 'Novice' level of competency.

- The ARC tool details 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 used during marking and moderation to ascertain achievable image quality.
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Note: 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.

PART B - Measurement Performance

Part B of the Echocardiography Skills Assessment requires students to apply best practice guidelines when undertaking routine M-mode and two-dimensional measurement on echocardiographic images using Q-Station discipline-specific software. Students are required to accurately perform and record a series of echocardiographic measurements offline using discipline-specific analysis software. Students are required to save measurement images to a desktop folder and transcribe these measurement values onto a provided worksheet replicating clinical documentation.

- The ARC tool details the required measurement sequence 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.

Students have 35 minutes to complete this assessment.

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 this assessment, there will be only ONE opportunity to re-sit the failed component of the assessment item.

Assessment Due Date

The Skills Assessment will be completed during Week 9. The Re-sit Skills Assessment will be completed during Week 12. Schedules will be posted on the ECHO12006 Moodle site.

Return Date to Students

Feedback will be provided to students within two weeks of assessment completion.

Weighting

Pass/Fail

Minimum mark or grade

To pass this assessment task, students must demonstrate competency by achieving a pass in all components.

Assessment Criteria

Students will be assessed using the below documents. Students are advised to carefully review these documents which are available on the unit Moodle site.

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

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 these components, ALL criteria must be demonstrated to the appropriate level of competence as detailed in the ARC tools.

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 Part B of this assessment, ALL criteria must be demonstrated to the appropriate level of competence as detailed on the ARC tools. If multiple images of a single measurement are saved, only the image corresponding to the measurement transcribed on the worksheet will be assessed.

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

The mock assessment will be delivered as part of the routine laboratory sessions. Note, there is no opportunity for rescheduling of missed laboratory sessions.

Referencing Style

- [Vancouver](#)

Submission

Offline

Learning Outcomes Assessed

- Perform the standard two-dimensional echocardiographic protocol including associated anatomical quantification.
- Formulate and evaluate reasoned arguments for the exclusion of artefactual and discordant two-dimensional echocardiographic findings.
- Apply professional behaviour, teamwork and communication skills consistent with safe practice.

4 Professional Behaviour and Laboratory 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 follow-on clinical placement blocks. 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 settings and equipment we interact with. Exemplary professional behaviour is highly valued by clinical supervisors and this information may be used to endorse students for placements if requested by clinical sites.

This assessment requires students to treat each of the lab sessions as a scheduled "work shift" and to exhibit high-quality professional attributes. 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. Aspects of professionalism will be assessed across multiple levels including, but not limited to: maintenance of laboratory documentation, Moodle forums, online tutorials, lab sessions (both manned and unmanned),

interactions with peers and staff, social media, phone calls and all official correspondence with university staff, peers and the community.

Instances of substandard professional behaviour will result in a Lapse in Professionalism (LiP) point being awarded to the offending student. **Should a student acquire more than three (3) LiPs, this assessment will automatically be graded a FAIL.**

LiPs may be issued in three different categories:

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

Further information is detailed in the **Expected Professional Behaviour and LiP Allocation** document, which is available on the Moodle site. Students are encouraged to review this document to be sure of behavioural expectations. Students should also be familiar with the CQUniversity Student Charter as well as the Australasian Sonographers Association (ASA) Code of Conduct (available online).

If an 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 and the student's response will be documented. If further evidence of ongoing unprofessional behaviour arises then a LiP may be awarded. If any exhibited attitude or behaviour is deemed as unsafe or inappropriate, this assessment will be graded as a FAIL at the discretion of the unit coordinator.

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 (via email or phone) before the start of a missed lab will result in a LiP (Lapse in Professionalism) except in extraordinary circumstances. Lateness to labs may result in a LiP, whether notice is given or not. Labs missed for a valid reason (eg. illness or injury) require supporting documentation. 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 in this case. There is no opportunity to 'make up' missed lab sessions.

Peer-Assisted Practice Sessions

Students are offered regular peer-assisted practice sessions, which are scheduled through Google Doc links on the Moodle site. Penalties will be applied if instructions and rules disclosed on these documents are not adhered to. Failure to abide by these regulations may result in a LiP and removal of attendance privileges.

Assessment Due Date

Laboratory Agreement Form and Consent Form in the first laboratory session in week 1; Professional Behaviour Rubric Form and Laboratory Attendance Form due via Moodle by Thursday 30th May at 8:00 pm (AEST).

Return Date to Students

Feedback will be provided to students within two weeks of submission.

Weighting

Pass/Fail

Minimum mark or grade

To pass this assessment item all forms must be completed and submitted correctly.

Assessment Criteria

This assessment incorporates maintenance of pertinent lab documentation including lab attendance and any Lapse in Professionalism (LiP) points accrued throughout unit delivery. To pass this unit students need to consistently display a high standard of professional behaviour including, but not limited to, punctual lab attendance. All interactions with staff and peers pertaining to this unit will be treated as a replica of the clinical work environment, and students are expected to demonstrate the professional behaviour expected in a formal work environment. **No more than three (3) Lapses in Professionalism are permitted to pass the unit.**

Students are required to complete the following documentation and submit to Moodle in PDF format. All documents are

available on the unit Moodle page.

1. A signed **Lab Agreement Form** (To be completed in the first laboratory session in week 1)
2. A signed **Consent Form - Sonographic Examination for Teaching Purposes** (To be completed in the first laboratory session in week 1)
3. A completed and signed **Lab Attendance and Professional Behaviour Assessment form** (signed and uploaded to Moodle by Thursday week 12)

The "Laboratory Agreement Form" and "Consent Form", as well as the Mandatory Laboratory Induction, must be completed in the first laboratory session in week 1. Students cannot participate in laboratory activities until these documents are completed.

The "Laboratory Attendance and Professional Behaviour Rubric Form" must be uploaded to the Assessment 4b tab by Week 12 Thursday 30th May 8:00 pm (AEST) on the ECHO12006 Moodle site. Students can access these tasks on the ECHO12006 Moodle site and must complete and upload all documents to achieve a pass.

To PASS this assessment, all documentation must be completed appropriately 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

Online via Moodle. Each item must be submitted and labelled appropriately, i.e. "S123456789 - John SMITH - Lab Attendance and Professional Behaviour Assessment form".

Learning Outcomes Assessed

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

5 Formative Feedback and Self-Reflection

Assessment Type

Reflective Practice Assignment

Task Description

The ability to set goals, self-reflect, and take advantage of feedback, are important 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:

1. Formative Feedback Forms (one for each laboratory session; a total of six forms). Each form must include goal setting and self-reflection, tutor feedback, and tutor signature. The feedback form must be completed before leaving the associated laboratory session.
2. Mock Assessment Reflection. This form must include a reflection on areas of strength and areas for improvement in preparation for the Skills Assessment.

The "Formative Feedback and Self-Reflection Forms" are available on the ECHO12006 Moodle site.

Assessment Due Date

Week 12 Thursday (30 May 2024) 8:00 pm AEST

Return Date to Students

Feedback will be provided to students within two weeks of submission.

Weighting

Pass/Fail

Minimum mark or grade

To pass this assessment item all forms must be completed and submitted correctly.

Assessment Criteria

The Formative Feedback and Self-Reflection document is available on the Moodle site and must be presented to the supervising tutor at each of the tutorial lab sessions.

To PASS this assessment, all documentation must be completed appropriately 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.

Examination

Outline

Complete an invigilated examination.

Date

During the examination period at a CQUniversity examination centre.

Weighting

50%

Length

180 minutes

Minimum mark or grade

50%

Exam Conditions

Closed Book.

Materials

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

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