ECHO12006 *Cardiac Science*
Term 1 - 2022

Profile information current as at 08/05/2024 12:28 pm

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-requisiteECHO11002 Cardiac Structure and FunctionandECHO11003 Fundamentals of Cardiac ScienceCo-requisiteMEDS12001 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 - 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. **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. **Online Test**
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 SUTE survey

Feedback
The unit and the resources therein were well-structured and engaging.

Recommendation
The unit and the resources structure and style will be continued in the next delivery.

Feedback from SUTE survey

Feedback
The Written Assessment developed research skills, contextualised knowledge, and provided feedback for further learning.

Recommendation
The updated design of the Written Assessment will be continued in the next delivery.

Feedback from SUTE survey

Feedback
The Written Assessment weighting to be increased from 20%.

Recommendation
The Written Assessment weighting will be reviewed to reflect the work required as per SUTE feedback.

Feedback from SUTE survey

Feedback
The Practical Assessment to be supported with more information about the mock test, test, and re-sit test process, and another manned laboratory session.

Recommendation
To enhance student experience in the laboratory activities, the Practical Assessment will be supported with more information (on Moodle, available at the commencement of the term) about the mock test, test, and resit test process, and another manned laboratory session.

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

— 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 - Online Quiz(zes) - 20%					•		
2 - Written Assessment - 30%			•	•	•		•
3 - Practical Assessment - 0%	•	•				•	
4 - Performance - 0%						•	
5 - Reflective Practice Assignment - 0%							•
6 - Online Test - 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 - 07 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
CCL: purpose, procedures, and equipment. **ECG**: the stepwise method, identifying rhythm, and 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.	

Week 2 - 14 Mar 2022

Module/Topic	Chapter	Events and Submissions/Topic
CCL: radiation. **ECG**: the P-R interval, Q waves, and the QRS complex. **Echo**: M-mode and two-dimensional left heart measurements.	See eReading List via Moodle.	**Laboratory Agreement Form** and **Consent Form** to be completed during laboratory induction.

Week 3 - 21 Mar 2022

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

Week 4 - 28 Mar 2022

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 - 04 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic
CCL: determining cardiac output (CO). **ECG**: identifying arrhythmias. **Echo**: two-dimensional assessment of ventricular systolic function.	See eReading List via Moodle.	

Vacation Week - 11 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - 18 Apr 2022

Module/Topic	Chapter	Events and Submissions/Topic
Echo: two-dimensional assessment of ischaemic and non-ischaemic causes of chest pain.	See eReading List via Moodle.	**ECG Online Quiz** will open at 8:00 am (AEST) on Tuesday 19th April and will close at 8:00 pm (AEST) Friday 22nd April 2022.

Week 7 - 25 Apr 2022

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 - 02 May 2022

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 - 09 May 2022

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.	**Written Task** Due: Week 9 Monday (9 May 2022) 8:00 pm AEST

Week 10 - 16 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
Echo: two-dimensional assessment of pericardial and extracardiac disease.	See eReading List via Moodle.	

Week 11 - 23 May 2022

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

Week 12 - 30 May 2022

Module/Topic	Chapter	Events and Submissions/Topic
		Professional Behaviour and Laboratory Documentation Due: Week 12 Thursday (2 June 2022) 8:00 pm AEST **Formative Feedback and Self-Reflection** Due: Week 12 Thursday (2 June 2022) 8:00 pm AEST

Review/Exam Week - 06 Jun 2022

Module/Topic	Chapter	Events and Submissions/Topic
		Online Test will open at 8:00 am (AEST) on Monday 6th June and will close at 8:00 pm (AEST) Tuesday 7th June 2022.

Exam Week - 13 Jun 2022

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, being Monday - Wednesday.

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 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 and Laboratory Documentation must be complete in the first laboratory. Please review the Laboratory Resources on the ECHO12006 Moodle site. Laboratory sessions that are not attended must be accompanied by appropriate documentation and can not be attended at a later date. All students are to demonstrate 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 ECG Online Quiz

Assessment Type
Online Quiz(zes)

Task Description
The ability to correctly analyse and interpret a 12-lead electrocardiogram (ECG) 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 are to analyse and interpret a series of 12-lead ECGs in accordance with the "Stepwise Method of ECG Interpretation" (available on the ECHO12006 Moodle). The Stepwise Method of ECG Interpretation requires analysis and interpretation of the following ECG components:

1. Calibration
2. Rhythm
3. Rate
4. P wave
5. P-R interval
6. Q wave
7. QRS complex
8. S-T segment
9. T wave
10. Q-T interval
11. Axis
12. Interpretation

Students will have 80 minutes to complete the quiz once it is started.

To successfully complete the ECG Online Quiz, students must:

- Access the ECG Online on the ECHO12006 Moodle at the assigned time;
- Attempt the ECG Quiz only once (once started, the ECG Online Quiz can not be paused);
- Submit responses to complete the ECG Online Quiz (Moodle will automatically close and submit responses once the allocated time has elapsed);
- Prepare personal notes and have a calculator when attempting the quiz;
- Undertake the ECG Online Quiz as an individual (questions are drawn from a question pool to allow a different quiz for each student; any incidences of academic misconduct will be met with action from the Deputy Dean of Learning and Teaching).
- Notify TASAC and relevant ECHO12006 staff if technical issues arise during the ECG Online Quiz (i.e. email TASAC with screenshot of the issue, and Cc ECHO12006 staff); TASAC is available for immediate assistance during AEST business hours.

It is the student's responsibility to commence the online quiz before 6:40 pm Friday 22nd April 2022 (AEST).

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

Number of Quizzes
1

Frequency of Quizzes
Other

Assessment Due Date

The ECG Online Quiz will open at 8:00 am (AEST) on Tuesday 19th April and will close at 8:00 pm (AEST) Friday 22nd 2022.

Return Date to Students

Assessments will be returned within two (2) weeks, once submissions have been marked and moderated. The ECG Online Quiz question pool in its entirety will not be released to students.

Weighting
20%

Minimum mark or grade
50%

Assessment Criteria
A detailed Stepwise Method of ECG Interpretation will be available, with grading based on the student's ability to:

- 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.

Referencing Style

- Vancouver

Submission
Online

Learning Outcomes Assessed

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

2 Written Task

Assessment Type
Written Assessment

Task Description
Combining findings from multimodality cardiac testing is useful in the diagnostic pathway for many cardiac pathologies. Integrating information from cardiac catheterisation, 12-lead electrocardiogram (ECG), and echocardiographic studies provide useful clinical information that may be applied to the clinical scenario, such as generating test reports, formulating differential diagnoses, and planning patient management strategies.

Students are required to present a scholarly report of 1200 (+/- 10 %) words reviewing multi-modality findings on the topic:

Acute ST-Elevation Myocardial Infarction (STEMI).

The report requires each student to:

1. Research, analyse, and discuss the aetiology, epidemiology, pathophysiology, presenting clinical symptoms, clinical management, and prognosis of the cardiac pathology.
2. Research, analyse, and discuss at least two (2) alternatives for differential diagnoses, and describe relevant clinical information that would exclude alternative diagnoses.
3. Research, analyse, and discuss analysis methods, characteristic findings, and diagnostic criteria as observed from a standard **12-lead ECG**. Include an example and description of a 12-lead ECG to demonstrate findings.
4. Research, analyse, and discuss indications, analysis methods, characteristic findings, and diagnostic criteria as observed from **cardiac catheterisation**. Include an example and description of a haemodynamic graph to demonstrate findings.
5. Research, analyse, and discuss **M-mode and two-dimensional echocardiographic analysis methods**, characteristic findings, and diagnostic criteria. Include an example and description of a two-dimensional and M-mode image to demonstrate findings. Spectral Doppler (colour Doppler, continuous wave or pulse wave) findings should not be included in the report.
6. Provide a reference list at the end of the report, using Vancouver referencing style. The reference is list not included in the word count
7. Present information in a scholarly manner, with accurate spelling and grammar, and within the word count. Content beyond the word limit will not be marked.
8. Provide a reflection on the strengths and areas for improvement of your report by responding to prompts on the task rubric, and include the rubric and your reflection at the front of your report upon submission.

Students are advised to review and utilise the "Written Task Template with Rubric" document (available on the ECHO12006 Moodle).

Assessment Due Date
Week 9 Monday (9 May 2022) 8:00 pm AEST

Return Date to Students

Assessments will be returned within two (2) weeks, once submissions have been marked and moderated.

Weighting
30%

Minimum mark or grade
50%

Assessment Criteria
A detailed rubric will be available on the ECHO12006 Moodle, 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

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
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 ECHO12006 are working towards attainment of **Novice level of competency.**

Students will upskill at different rates during lab delivery. Those who engage in all compulsory tuition, unmanned and manned practice sessional offerings are more likely to achieve success.

In conjunction with practical skills training in simulation and QLAB tuition, students accumulate theoretical knowledge about cardiac anatomy, its 2D echocardiographic appearance, imaging techniques and measurement application through unit enrolment. This information needs to be mentally accessible to achieve practical skill acquisition and correct measurement performance.

At this early stage of practical training, student skill development and measurement performance are very much rule driven, with sonographic imaging replicating or repeating what is taught by the tutor. Lacking any developed intuitive response, students often 'know' what they want to do, but struggle to 'do'. Students will require frequent and clear instruction.

Students may struggle with time management, will consciously need to consider probe orientation, and actively consider how to optimise images. Students may struggle to multi-task and produce consistently good quality images. Students may not simultaneously perfect image orientation, optimisation, acquisition and measurements technique, representative image storage, or outcome transcription. Students may require reminders of scan/measurement and own limitations.

Satisfactory practical skills must be demonstrated in ECHO12006 to permit skills scaffolding in latter scanning units. In particular, examination extension with the addition of colour and spectral Doppler necessitates a reproducible 2D imaging protocol with stable, optimised image acquisition from all acoustic windows and orthogonal imaging planes. Knowledge and skills learned in ECHO12006 are assumed in subsequent scanning units.

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

Objective:
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.

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. In summary, this is an assessment of the 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 complete Echocardiogram within a reasonable set time to a '**Novice 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.

Time limit:
The student will have **70 minutes** in total to complete both professional and technical components:

- **10 minutes** to complete the professional component
- **60 minutes** to complete the ECHO12006 2D and M-Mode imaging protocol.

PART B Measurement Performance

Objective:
Part B of the Echocardiography Skills Assessment requires students to apply best practice guidelines when performing routine measurements on 2D and M-mode echocardiographic images using Q-Station discipline specific software.

- Students are required to perform measurements within a reasonable set time to a 'Novice level' of competency.
- Students must transcribe these measurements onto a provided worksheet replicating clinical documentation.

The ARC tool details measurements that must be attempted and performance criteria cues.

Time limit:
Students have 35 minutes to complete the measurement assessment, to save images to a labelled folder and transcribe outcome onto worksheet provided.
The collection of images stored by the student represent the measurement examination performed. Only these measurements are assessed by the examiner for performance accuracy.

Assessment Due Date

The Skills Assessment will be completed during Week 10. The Re-sit Skills Assessment will be completed during Week 12. Schedules will be posted on the ECHO12006 Moodle.

Return Date to Students

Results will be available within two weeks of the due date. Re-sit assessments will be held during Exam week.

Weighting
Pass/Fail

Assessment Criteria
THIS IS A PASS/FAIL ASSESSMENT

Part A

To pass this assessment, a student must be deemed competent in **both** the Professional and Technical components:

- To pass the **Professional** and **Technical** components, 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

To pass this assessment, 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.

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

Referencing Style

- Vancouver

Submission
No submission method provided.

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
Professional behaviour is a critical part of the medical imaging profession, and encompasses interactions with colleagues, patients, and equipment, within the clinical context and in the broader industry setting.

Demonstrating professionalism through simulated clinical activities aims to prepare students for upcoming clinical placement requirements. Students are expected to attend laboratory sessions as they would attend a clinical role as an employee, thus building the competence required to enter clinical placement and employment with the skills to demonstrate professional behaviour and provide safe patient care. Evaluation encompasses student attendance and application throughout all laboratory activities, including laboratory assessments, and also includes student behaviour towards self/staff/peers in all relevant forums, including on-campus, online, tutorials, social media, phone calls, community, etc.

Task Requirements

Students are to demonstrate high standards of professionalism through completing required preparation documents, attending laboratory sessions, and adhering to workplace guidelines.

1. Laboratory Agreement Form (completed during first laboratory session)
2. Consent Form (completed during first laboratory session)
3. Professional Behaviour Rubric Form (completed and uploaded via Moodle by Thursday, Week 12)
4. Laboratory Attendance Form (completed and uploaded via Moodle by Thursday, Week 12)

- The "Laboratory Agreement Form" and "Consent Form", as well as the Mandatory Laboratory Induction, must be completed during the first laboratory to be able to participate in laboratory activities.
- The "Professional Behaviour Rubric Form" and "Laboratory Attendance Form" must be uploaded by Week 12 Thursday 8:00 pm AEST on the ECHO12006 Moodle.

Students can access these tasks on the ECHO12006 Moodle, and must complete and upload all documents to achieve a pass.

The "Professional Behaviour Rubric Form" incorporates lapses in professionalism (LiP). A LiP is issued when a student demonstrates substandard professional behaviour within any activities associated within the unit, as described in the "Expected Professional Behaviour and LiP Allocation" document (available on the ECHO12006 Moodle), as well as the "CQUniversity Student Charter" and "Australasian Sonographers Association Code of Conduct" (available online). If a student is issued a LiP, the student will receive an "Issue of a Lapse in Professionalism" document from the issuing tutor and will be required to submit the form with the "Professional Behaviour Rubric Form" by the due date. To achieve a pass in this assessment, students must obtain a minimum of 12/15 on the "Professional Behaviour Rubric Form".

Therefore, a student can obtain a maximum of three (3) LiPs. If four (4) or more LiPs are issued, the minimum of 12/15 on the "Professional Behaviour Rubric Form" would not be achieved, and the assessment will not be passed.

Laboratory sessions are mandatory for ECHO12006. There is no opportunity for rescheduling any missed laboratory sessions. In the case of non-attendance of a laboratory session, students must notify the Unit Coordinator and local campus staff before the start of their laboratory session with appropriate documentation, as per CQUniversity's "Assessment Policy and Procedure (Higher Education Coursework)". In the case of non-attendance of a laboratory session, and the student does not notify the Unit Coordinator and local campus staff before the start of their laboratory session, the student will be issued a LiP as outlined in the "Professional Behaviour Rubric Form".

Assessment Due Date
Week 12 Thursday (2 June 2022) 8:00 pm AEST

Return Date to Students

Assessments will be returned within two (2) weeks, once submissions have been marked and moderated.

Weighting
Pass/Fail

Assessment Criteria
Detailed rubrics will be available on the ECHO12006 Moodle, with grading based on the student's ability to:

- Demonstrate professional behaviour towards colleagues and staff;
- Demonstrate professional behaviour towards patients; and
- Demonstrate professional behaviour towards the professional setting and the equipment.

Referencing Style

- Vancouver

Submission
Online

Submission Instructions
Online via Moodle. Each item must be submitted and labelled appropriately, i.e. "S123456789 - John SMITH - Laboratory Attendance 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; 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 Form. This form must include: reflection on areas of strength and areas for improvements in preparation for the Skills Assessment.

The "Formative Feedback Forms" and "Mock Assessment Reflection Form" are available on the ECHO12006 Moodle. Students must complete and upload both complete documents by the due date to achieve a pass.

Assessment Due Date
Week 12 Thursday (2 June 2022) 8:00 pm AEST

Return Date to Students

Assessments will be returned within two (2) weeks, once submissions have been marked and moderated.

Weighting
Pass/Fail

Assessment Criteria
Detailed rubrics are available on the ECHO12006 Moodle, with grading based on the student's ability to:

- Develop self-reflection skills;
- Apply goal-setting strategies; and
- Implement feedback for performance improvement.

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.

6 Online Test

Assessment Type
Online Test

Task Description
Students will be required to respond to a series of questions (drawn from lectures, readings, tutorials, and laboratory sessions) via an Online Test.

Students will have 120 minutes to complete the quiz once it is started.

To successfully complete the Online Test, students must:

- Access the Online Test on the ECHO12006 Moodle at the assigned time;
- Attempt the Online Test only once (once started, the Online Test can not be paused);
- Submit responses to complete the Online Test (Moodle will automatically close and submit responses once the allocated time has elapsed);
- Prepare personal notes and have a calculator when attempting the Online Test.
- Undertake the Online Test as an individual (questions are drawn from a question pool to allow a different Online Test for each student; any incidences of academic misconduct will lead to action from the Deputy Dean of Learning and Teaching)
- Notify TASAC and relevant ECHO12006 staff if technical issues arise during the Online Test (i.e. email TASAC with a screen shot of the issue, and Cc ECHO12006 staff); **TASAC is available for immediate assistance during AEST business hours**.

It is the student's responsibility to commence the online quiz before 6:00pm Tuesday 7th June 2022 (AEST).
The duration of the quiz is tailored to promote recall of fact, rather than research of answers unknown.
In the absence of an approved extension, the Online Test cannot be completed at a later time.

Assessment Due Date

The Online Test will open at 8:00 am (AEST) on Monday 6th June and will close at 8:00 pm (AEST) Tuesday 7th June 2022.

Return Date to Students

Assessments will be returned within two (2) weeks, once submissions have been marked and moderated. The Online Test question pool in its entirety will not be released to students.

Weighting
50%

Minimum mark or grade
50%

Assessment Criteria
The Online Test will be marked according to a rubric, with grading based on the student's ability to:

- Evaluate cardiac imaging findings;
- Analyse clinical information;
- Discuss cardiac procedures; and
- Use discipline-specific terminology.

Referencing Style

- Vancouver

Submission
Online

Learning Outcomes Assessed

- Formulate and evaluate reasoned arguments for the exclusion of artefactual and discordant two-dimensional

echocardiographic findings
- 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

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