ECHO13005 *Congenital Heart Disease*

Term 2 - 2023

Profile information current as at 12/10/2024 03:34 pm

All details in this unit profile for ECHO13005 have been officially approved by CQUniversity and represent a learning partnership between the University and you (our student).The information will not be changed unless absolutely necessary and any change will be clearly indicated by an approved correction included in the profile.

General Information

Overview

Echocardiographers are required to perform complex assessments to aid in the diagnosis of cardiac pathology associated with congenital heart disease in both the paediatric and adult populations. In this unit you will study the link between disordered embryological development, congenital heart disease, and corrective interventional procedures. You will build upon your knowledge exploring corrective and palliative interventions and post-operative evaluation of congenital heart disease using advanced cardiovascular assessment techniques including 3-D, strain, contrast, exercise stress testing, echocardiography and trans-oesophageal echocardiography (TOE). You will apply advanced haemodynamic calculations to given clinical scenarios, guiding cardiac management. You will acquire knowledge of the principles of cardiac electrophysiology and investigation methods used in paediatric and adult congenital cardiac disease. You will apply your knowledge to simulated clinical scenarios and case studies and compare and contrast the choice of procedure within an ethical framework of best practice and patient safety.

Details

Career Level: *Undergraduate*
Unit Level: *Level 3*
Credit Points: *6*
Student Contribution Band: *8*
Fraction of Full-Time Student Load: *0.125*

Pre-requisites or Co-requisites

Pre-Requisites: ECHO13006 Adult Echocardiography AND ECHO13002 Cardiac Assessment Skills 2 OR ECHO13008 Advanced Cardiac Assessment Skills
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 2 - 2023

- Online

Attendance Requirements

All on-campus students are expected to attend scheduled classes – in some units, these classes are identified as a mandatory (pass/fail) component and attendance is compulsory. International students, on a student visa, must maintain a full time study load and meet both attendance and academic progress requirements in each study period (satisfactory attendance for International students is defined as maintaining at least an 80% attendance record).

Website

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

Class and Assessment Overview

Recommended Student Time Commitment

Each 6-credit Undergraduate unit at CQUniversity requires an overall time commitment of an average of 12.5 hours of study per week, making a total of 150 hours for the unit.

Class Timetable

Regional Campuses
Bundaberg, Cairns, Emerald, Gladstone, Mackay, Rockhampton, Townsville

Metropolitan Campuses
Adelaide, Brisbane, Melbourne, Perth, Sydney

Assessment Overview

1. **Online Quiz(zes)**
Weighting: 40%
2. **Online Test**
Weighting: 60%

Assessment Grading

This is a graded unit: your overall grade will be calculated from the marks or grades for each assessment task, based on the relative weightings shown in the table above. You must obtain an overall mark for the unit of at least 50%, or an overall grade of 'pass' in order to pass the unit. If any 'pass/fail' tasks are shown in the table above they must also be completed successfully ('pass' grade). You must also meet any minimum mark requirements specified for a particular assessment task, as detailed in the 'assessment task' section (note that in some instances, the minimum mark for a task may be greater than 50%). Consult the University's Grades and Results Policy for more details of interim results and final grades.

CQUniversity Policies

All University policies are available on the CQUniversity Policy site.
You may wish to view these policies:

- Grades and Results Policy
- Assessment Policy and Procedure (Higher Education Coursework)
- Review of Grade Procedure
- Student Academic Integrity Policy and Procedure
- Monitoring Academic Progress (MAP) Policy and Procedure – Domestic Students
- Monitoring Academic Progress (MAP) Policy and Procedure – International Students
- Student Refund and Credit Balance Policy and Procedure
- Student Feedback – Compliments and Complaints Policy and Procedure
- Information and Communications Technology Acceptable Use Policy and Procedure

This list is not an exhaustive list of all University policies. The full list of University policies are available on the CQUniversity Policy site.

Previous Student Feedback

Feedback, Recommendations and Responses

Every unit is reviewed for enhancement each year. At the most recent review, the following staff and student feedback items were identified and recommendations were made.

Feedback from Verbal during informal consult

Feedback

Image interpretation was useful and helped me with my understanding for the exam.

Recommendation

Students found image interpretation exercises helpful and assisted with exam preparation.

Unit Learning Outcomes

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

1. Differentiate the aetiology and related cardiac assessment data of congenital cardiac pathologies across the life span of a patient
2. Explain other diagnostic and therapeutic procedures involved in the assessment of congenital heart disease
3. Contrast echocardiographic views, cardiac assessment techniques and surgical intervention utilised in complex and congenital heart disease
4. Apply haemodynamic calculations used in complex cardiac assessment
5. Critically evaluate the treatment options and examination protocol appropriate to different types of congenital heart disease.

Linked to National and International Standards
1. ASAR Accreditation Standards for Cardiac Sonography - critical practice Unit 8 - Cardiac
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
1 - Online Quiz(zes) - 40%	•	•	•		•
2 - Online Test - 60%	•	•	•	•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
1 - Communication	•	•	•	•	•

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
2 - Problem Solving	•	•	•	•	•
3 - Critical Thinking					•
4 - Information Literacy	•	•	•		•
5 - Team Work					
6 - Information Technology Competence			•		
7 - Cross Cultural Competence					
8 - Ethical practice			•		•
9 - Social Innovation					
10 - Aboriginal and Torres Strait Islander Cultures					

Alignment of Assessment Tasks to Graduate Attributes

Assessment Tasks	Graduate Attributes									
	1	2	3	4	5	6	7	8	9	10
1 - Online Quiz(zes) - 40%	•	•	•							
2 - Online Test - 60%	•	•	•							

Textbooks and Resources

Textbooks

ECHO13005

Supplementary

ASE's Comprehensive Echocardiography
3rd Edition (2021)
Authors: Roberto M. Lang
Elsevier
USA
ISBN: 9780323698306
Binding: Hardcover
ECHO13005

Supplementary

A Sonographer's Guide to the Assessment of Heart Disease
Edition: First (2014)
Authors: Bonita Anderson
MGA Graphics, Australia
Brisbane , QLD , Australia
ISBN: 0992322200
Binding: Hardcover

View textbooks at the CQUniversity Bookshop

IT Resources

You will need access to the following IT resources:

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

Referencing Style

All submissions for this unit must use the referencing style: Vancouver
For further information, see the Assessment Tasks.

Teaching Contacts

Sudeepthi Singarayar Unit Coordinator
s.singarayar@cqu.edu.au

Schedule

Week 1 - Introduction to Congenital Heart Disease - 10 Jul 2023

Module/Topic	Chapter	Events and Submissions/Topic
Introduction to Congenital Heart Disease (CHD): • Foundation concepts and the segmental sequential analysis • CHD views, vessels and terminology • Circulation in the foetus and the first few weeks of life	See eReading List via Moodle.	

Week 2 - Simple shunts - 17 Jul 2023

Module/Topic	Chapter	Events and Submissions/Topic

Simple shunts: • Atrial septal defects • Ventricular septal defects • Patent ductus arteriosus and other shunts	See eReading List via Moodle.	

Week 3 - Isolated lesions - 24 Jul 2023

Module/Topic	Chapter	Events and Submissions/Topic
Isolated lesions: • Atrioventricular septal defect (AVSD) • Ebstein anomaly • Coronary arteries – Kawasaki's and anomalous left coronary artery (ALCAPA)	See eReading List via Moodle.	

Week 4 - LV Inflow and outflow lesions - 31 Jul 2023

Module/Topic	Chapter	Events and Submissions/Topic
LV inflow lesions: • The left atrium - cortriatriatum, supra-mitral membrane, parachute mitral valve, double orifice mitral valve (DOMV) LV outflow lesions: • The left ventricle - sub-valvular and valvular lesions • The aorta – supra-valvular aortic stenosis (AS) and coarctation	See eReading List via Moodle.	

Week 5 - RV outflow lesions - 07 Aug 2023

Module/Topic	Chapter	Events and Submissions/Topic
RV outflow lesions: • Double chambered right ventricle (DCRV) • Pulmonary stenosis - Infundibulum to branch	See eReading List via Moodle.	

Break Week - 14 Aug 2023

Module/Topic	Chapter	Events and Submissions/Topic

Week 6 - Complex lesions 1 - 21 Aug 2023

Module/Topic	Chapter	Events and Submissions/Topic
Complex lesions 1: • Truncus arteriosus • Pulmonary atresia	See eReading List via Moodle.	

Week 7 - Complex lesions 2 - 28 Aug 2023

Module/Topic	Chapter	Events and Submissions/Topic
Complex lesions 2: • Dextro-transposition of the Great Arteries (d-TGA) • Congenitally corrected transposition of the Great Arteries (cc-TGA)	See eReading List via Moodle.	The **Online Quiz** will open at 8:00am (AEST) on Friday 1st September and will close at 8:00pm (AEST) Monday 4th September.

Week 8 - Complex lesions 3 - 04 Sep 2023

Module/Topic	Chapter	Events and Submissions/Topic
Complex lesions 3: • Tetralogy of Fallot • Univentricular Hearts	See eReading List via Moodle.	

Week 9 - Venous anomalies - 11 Sep 2023

Module/Topic	Chapter	Events and Submissions/Topic

Venous anomalies: • Anomalies of the pulmonary veins • Anomalies of the systemic veins	See eReading List via Moodle.	

Week 10 - CHD outside the echo lab - 18 Sep 2023

Module/Topic	Chapter	Events and Submissions/Topic
CHD outside the echo lab: • Congenital Services overview • Other tests used in CHD - Myocardial oxygen consumption (MVO2), cardiac magnetic resonance (CMR), computed tomography (CT), electrophysiology study (EPS) • Syndromes associated with CHD - Marfan's, Noonan's, Downs, Williams, Turners, Scoliosis, etc.	See eReading list via Moodle	

Week 11 - Bringing it all together - 25 Sep 2023

Module/Topic	Chapter	Events and Submissions/Topic
Bringing it all together: • Clinical case studies • Revision material	See eReading List via Moodle.	

Week 12 - Revision /Exam - 02 Oct 2023

Module/Topic	Chapter	Events and Submissions/Topic
• Revision		The **Online Test** will be open from 8:00am (AEST) on Friday 6th of October and will close at 8:00pm (AEST) on Monday 9th of October.

Term Specific Information

Unit Coordinator and Contact Details
The Unit Coordinator for ECHO13005 is Sudeepthi Singarayar. The preferred method for contacting Sudeepthi is via the Learning Community Q&A Forum located on the Moodle site for content-related questions. If the query is of a personal nature, please email s.singarayar@cqu.edu.au, or phone (02) 9324 5036. Sudeepthi's workdays are Wednesday, Thursday and Friday and she is based on the Sydney Campus.

Unit Tutorials
Tutorials for this unit will be delivered 'live' online using ZOOM (the links required for accessing the tutorials are provided on the Moodle site under the Virtual Classes tile). The tutorials will focus on clarification of theoretical concepts and assessment requirements. Clinical case studies will also be shown, demonstrating the practical application of the theoretical content.

Tutorials are designed to complement the theories and principles presented in lectures. Tutorials provide an opportunity for discussion and interaction with other students and with your tutor. It is important students make the most of these interactive sessions and participate fully in order to broaden their knowledge and experience with the course material.

Note: Tutorials are recorded for educational purposes. Recordings of Zoom tutorials may be uploaded and appear on YouTube, Moodle and Microsoft Teams. If you have any concerns about being recorded please turn off your webcam or audio, or both, during the session. Your participation will signify your consent to the recording and publication for educational purposes.

Unit Study Commitment
As per Australian educational standards, there is an expectation of 150 hours of engagement required to complete learning and assessment tasks associated with this 6-credit point unit. (i.e. 12.5 hours per week). Weekly revision material will be provided. Attempting all provided revision material will help you prepare for your online test. No new lecture material will be presented during week 12 of term. This week will be used to prepare for the online test.

Assessment Tasks

1 Online Quiz

Assessment Type
Online Quiz(zes)

Task Description
This online quiz will assess your understanding of the content presented within this unit up to and including week 6. Questions may be drawn from lectures, additional resources provided (e.g. prescribed readings), or tutorial presentations.

The quiz can be accessed through the assessment tab on Moodle at the assigned time.

- The Online Quiz will be open for 60 minutes, this includes a perusal time of 10 minutes.
- The Online Quiz will automatically close at 8:00 pm (AEST) on Monday 4th September submitting all student answers when the allocated time has elapsed.
- The duration of the online quiz is tailored to promote recall of facts, rather than research of answers unknown.
- You will be required to answer a variety of online questions. Questions may include multiple-choice, short answers, essay style, or image interpretation format.
- The number of marks allocated for each question will be indicated within the online quiz. Question marks are allocated based on the accuracy, depth and breadth of required responses.
- All questions are to be answered in the space provided.
- The online quiz question pool in its entirety will not be released to students.

You are permitted ONE attempt to complete the online quiz, and once started, the quiz cannot be paused or restarted. Students are reminded that IT support from the university Information and Technology Division (TaSAC) is only available during AEST business hours. It is recommended that the Online Quiz is completed during business hours. It is recommended that students complete their assessment on campus to avoid any home internet concerns.

As the quiz is online and open book, you will find it useful if you have produced your own notes from the lectures and you are familiar with the unit information. Questions will be drawn from a resource bank and randomised, to allow the quiz to be different for each student. This assessment is to be undertaken as an individual.

Please note that the quiz must be completed before the due date listed. In the absence of an approved extension, there will be no opportunity to complete the task after this date, and there will be no opportunity to apply a late penalty of five percent per day. Students will receive a mark of zero (or fail) for this assessment if they have not completed it by the scheduled date and time and do not have an extension.

As with all other university examinations, 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.

This assessment result is summative toward the final unit grade. 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 quiz will open at 8:00 am (AEST) on Friday 1st September (Week 7) and will close at 8:00 pm (AEST) Monday 4th September.

Return Date to Students

Individual student results will be made available within two (2) weeks of completion.

Weighting
40%

Minimum mark or grade
50%

Assessment Criteria
You will be required to answer a variety of online questions.

Question responses will be assessed according to the student's:

- Use of appropriate terminology and descriptors as well as grammar and spelling.
- Ability to appropriately interpret presented sonographic images and cardiac assessment data.
- Ability to succinctly respond with accurate answers.

Your score from the quiz will contribute 40% of your final grade.

Referencing Style

- Vancouver

Submission
Online

Submission Instructions
The online quiz will be accessible through the assessment tab on Moodle at the assigned time.

assessmentOutcome

- Differentiate the aetiology and related cardiac assessment data of congenital cardiac pathologies across the life span of a patient
- Explain other diagnostic and therapeutic procedures involved in the assessment of congenital heart disease
- Contrast echocardiographic views, cardiac assessment techniques and surgical intervention utilised in complex and congenital heart disease
- Critically evaluate the treatment options and examination protocol appropriate to different types of congenital heart disease.

assessmentGradAttribute

- Communication
- Problem Solving
- Critical Thinking

2 Online Test

Assessment Type
Online Test

Task Description
The Online Test will assess your understanding of the content presented within this unit. Questions may be drawn from lectures, additional resources provided (e.g., prescribed readings) or tutorial presentations.

- This test will assess the topics covered during weeks 1 to 12.
- Perusal time and online test duration will be 90 minutes in total.
- It is recommended that you have a calculator available when sitting the Online Test.
- Once started, the Online Test cannot be paused or restarted. Only one attempt is permitted.
- The Online Test will automatically close and submit completed student answers once the allocated time has elapsed.
- The duration of this test is tailored to promote recall of facts, rather than research of answers unknown.
- You will be required to answer a variety of online questions. Questions may include multiple-choice, short answers, essay style or image interpretation format.
- The number of marks allocated for each question will be indicated within the Online Test. Question marks are allocated based on the accuracy, depth and breadth of required responses.
- The Online Test question pool in its entirety will not be released to students.

Students are reminded that IT support from the university Information and Technology Division (TaSAC) is only available during AEST business hours. It is recommended that the Online Test is completed during business hours. It is also now recommended to do quizzes on campus to avoid home Internet concerns. It is recommended that students complete their assessment on campus to avoid any home internet concerns.

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

Please note that the Online Test must be completed before the due date listed. In the absence of an approved extension, there will be no opportunity to complete the task after this date, and there will be no opportunity to apply a late penalty of five percent per day. Students will receive a mark of zero (or fail) for this assessment if they have not completed it by the scheduled date and time and do not have an extension.

This assessment is to be undertaken as an individual. As with all other university examinations, 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.

Assessment Due Date

The online test will be open from 8:00 am (AEST) on Friday 6th of October (week 12) and will close at 8:00 pm (AEST) Monday 9th October.

Return Date to Students

Individual student results will be made available within two (2) weeks of completion.

Weighting
60%

Minimum mark or grade
50%

Assessment Criteria

- Be able to differentiate the aetiology and related cardiac assessment data of congenital cardiac pathologies across the life span of a patient.
- Compare and contrast advanced imaging modalities involved in the assessment of congenital heart disease.
- Apply haemodynamic calculations used in complex cardiac assessment.

Question responses will be assessed according to the student's:

- Use of appropriate terminology and descriptors as well as grammar and spelling.
- Ability to appropriately interpret presented sonographic images and cardiac assessment data.
- Ability to succinctly respond with accurate answers.

Your score from the online test will contribute 60% of your final grade.

Referencing Style

- Vancouver

Submission
Online

Submission Instructions
The online test will be accessible through the assessment tab on Moodle at the assigned time.

assessmentOutcome

- Differentiate the aetiology and related cardiac assessment data of congenital cardiac pathologies across the life span of a patient
- Explain other diagnostic and therapeutic procedures involved in the assessment of congenital heart disease
- Contrast echocardiographic views, cardiac assessment techniques and surgical intervention utilised in complex and congenital heart disease
- Apply haemodynamic calculations used in complex cardiac assessment
- Critically evaluate the treatment options and examination protocol appropriate to different types of congenital heart disease.

assessmentGradAttribute

- Communication
- Problem Solving
- Critical Thinking

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