



ECHO13005 Congenital Heart Disease

Term 2 - 2019

Profile information current as at 26/04/2024 06:41 am

All details in this unit profile for ECHO13005 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

Echocardiographers are required to perform complex assessments to aid in the diagnosis of cardiac pathology associated with congenital heart disease in both the pediatric 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

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 - 2019

- 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. **Examination**

Weighting: 60%

Assessment Grading

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

CQUniversity Policies

All University policies are available on the [CQUniversity Policy site](#).

You may wish to view these policies:

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

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

Previous Student Feedback

Feedback, Recommendations and Responses

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

Feedback from Moodle site and emails

Feedback

Content was well structured, and tutorials were interactive and supported learning.

Recommendation

Content was broken down into small lectures to facilitate absorption of complex pathological topics. Tutorials were interactive, and elaborated on the logical reasoning that was required to derive revision answers. Content was contextualised using case studies. This approach will again be adopted in 2019

Feedback from Moodle site

Feedback

Online test was challenging with time constraints

Recommendation

Due to open book nature of assessment, time constraints are necessary. Assessment videos and a Mock online test were provided to help students eliminate nerves prior to test due to unfamiliarity with technological aspects. This approach will again be adopted in 2019.

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



Alignment of Assessment Tasks to Learning Outcomes

Assessment Tasks	Learning Outcomes				
	1	2	3	4	5
1 - Online Quiz(zes) - 40%	•	•	•		•
2 - Examination - 60%	•	•	•	•	•

Alignment of Graduate Attributes to Learning Outcomes

Graduate Attributes	Learning Outcomes				
	1	2	3	4	5
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					

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 - Examination - 60%	•	•	•							

Textbooks and Resources

Textbooks

ECHO13005

Prescribed

A Sonographer's Guide to the Assessment of Heart Disease

Edition: First (2016)

Authors: Bonita Anderson

Echotext

Brisbane , QLD , Australia

ISBN: 9780992322205

Binding: Hardcover

ECHO13005

Supplementary

ASE's Comprehensive Echocardiography

Edition: Second (2016)

Authors: Roberto Lang, Steven Goldstein, Itzhak kronzon, Bijoy Khandheria, Victor Mor-Avi

Elsevier

Philadelphia , PA , United States of America

ISBN: 9780323260114

Binding: Hardcover

Additional Textbook Information

[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

Laura Wylie Unit Coordinator
l.wylie@cqu.edu.au

Schedule

Week 1 - Introduction to Congenital Heart Disease - 15 Jul 2019

Module/Topic	Chapter	Events and Submissions/Topic
--------------	---------	------------------------------

<p>Introduction to Congenital Heart Disease:</p> <ul style="list-style-type: none"> • Foundation concepts and the segmental sequential analysis • CHD views, vessels and terminology • Circulation in the foetus and the first few weeks of life 	<p>Anderson, B. A Sonographer's Guide to the Assessment of Heart Disease. Chapter 15, Introduction to Congenital Heart Disease Additional resource:(previously purchased for ECHO13006) Lang, R. (2016). ASE's Comprehensive Echocardiography. Philadelphia, PA: Elsevier Saunders. Section XXVI Chapters 164-169, pages 701-738</p>	<p>Cathy West Tutorial - AEST 8pm - see Moodle site for confirmation of tutorial date</p>
---	--	--

Week 2 - Simple shunts - 22 Jul 2019

Module/Topic	Chapter	Events and Submissions/Topic
<p>Simple shunts:</p> <ul style="list-style-type: none"> • Atrial septal defects • Ventricular septal defects • Patent ductus arteriosus and other shunts 	<p>Anderson, B. A Sonographer's Guide to the Assessment of Heart Disease. Chapter 15, Introduction to Congenital Heart Disease Additional resource:(previously purchased for ECHO13006) Lang, R. (2016). ASE's Comprehensive Echocardiography. Philadelphia, PA: Elsevier Saunders. Section XXVI Chapters 164-169, pages 701-738 Atrial Septal Defects in the Adult - Recent Progress and Overview (PDF can be found on Moodle) Echo Research and Practice - Echocardiographic assessment of left to right shunts. (PDF can be found on Moodle)</p>	

Week 3 - Isolated lesions - 29 Jul 2019

Module/Topic	Chapter	Events and Submissions/Topic
<p>Isolated lesions:</p> <ul style="list-style-type: none"> • AVSD • Ebstein anomaly • Coronary arteries - Kawasaki's and ALCAPA 	<p>Anderson, B. A Sonographer's Guide to the Assessment of Heart Disease. Chapter 15, Introduction to Congenital Heart Disease Additional resource:(previously purchased for ECHO13006) Lang, R. (2016). ASE's Comprehensive Echocardiography. Philadelphia, PA: Elsevier Saunders. Section XXVI Chapters 164-169, pages 701-738</p>	<p>Cathy West Tutorial - AEST 8pm - see Moodle site for confirmation of tutorial date</p>

Week 4 - LV outflow lesions - 05 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic
<p>LV inflow lesions:</p> <ul style="list-style-type: none"> • The left atrium - cortriatriatum, supra-mitral membrane, parachute MV, DOMV <p>LV outflow lesions:</p> <ul style="list-style-type: none"> • The left ventricle - sub-valvular and valvular lesions • The aorta - supra-valvular AS and coarctation 	<p>Anderson, B. A Sonographer's Guide to the Assessment of Heart Disease. Chapter 15, Introduction to Congenital Heart Disease Additional resource:(previously purchased for ECHO13006) Lang, R. (2016). ASE's Comprehensive Echocardiography. Philadelphia, PA: Elsevier Saunders. Section XXVI Chapters 110, 164-169, pages 466, 701-738</p>	

Week 5 - RV outflow lesions - 12 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic
--------------	---------	------------------------------

RV outflow lesions: <ul style="list-style-type: none"> • DCRV – Double chambered right ventricle • Pulmonary stenosis: Infundibulum to branch 	Anderson, B. A Sonographer's Guide to the Assessment of Heart Disease. Chapter 15, Introduction to Congenital Heart Disease Additional resource:(previously purchased for ECHO13006) Lang, R. (2016). ASE's Comprehensive Echocardiography. Philadelphia, PA: Elsevier Saunders. Section XXVI Chapters 164-169, pages 701-738 The Right Heart in Adults with Congenital Heart Disease (PDF can be found on Moodle)	Cathy West Tutorial - AEST 8pm - see Moodle site for confirmation of tutorial date
---	---	---

Vacation Week - 19 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic
--------------	---------	------------------------------

Week 6 - Complex lesions 1 - 26 Aug 2019

Module/Topic	Chapter	Events and Submissions/Topic
Complex lesions 1: <ul style="list-style-type: none"> • Truncus arteriosus • Pulmonary atresia 	Anderson, B. A Sonographer's Guide to the Assessment of Heart Disease. Chapter 15, Introduction to Congenital Heart Disease Additional resource:(previously purchased for ECHO13006) Lang, R. (2016). ASE's Comprehensive Echocardiography. Philadelphia, PA: Elsevier Saunders. Section XXVI Chapters 164-169, pages 701-738	

Week 7 - Complex lesions 2 - 02 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
Complex lesions 2: <ul style="list-style-type: none"> • d-TGA • cc-TGA 	Anderson, B. A Sonographer's Guide to the Assessment of Heart Disease. Chapter 15, Introduction to Congenital Heart Disease Additional resource:(previously purchased for ECHO13006) Lang, R. (2016). ASE's Comprehensive Echocardiography. Philadelphia, PA: Elsevier Saunders. Section XXVI Chapters 164-169, pages 701-738 ASE 2016 Guidelines - Multi Modality Imaging Transposition of the Great Arteries (PDF can be found on Moodle)	Cathy West Tutorial - AEST 8pm - see Moodle site for confirmation of tutorial date

Week 8 - Complex lesions 3 - 09 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
Complex lesions 3: <ul style="list-style-type: none"> • Tetralogy of Fallot • Univentricular Hearts 	Anderson, B. A Sonographer's Guide to the Assessment of Heart Disease. Chapter 15, Introduction to Congenital Heart Disease Additional resource:(previously purchased for ECHO13006) Lang, R. (2016). ASE's Comprehensive Echocardiography. Philadelphia, PA: Elsevier Saunders. Section XXVI Chapters 164-169, pages 701-738 ASE 2014 Guidelines - Multi Modality Imaging Tetralogy of Fallot (PDF can be found on Moodle) Managing Adult Fontan Patients: Where do we stand? (PDF can be found on Moodle)	

Week 9 - Venous anomalies - 16 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
Venous anomalies: <ul style="list-style-type: none"> • Anomalies of the pulmonary veins • Anomalies of the systemic veins 	Anderson, B. A Sonographer's Guide to the Assessment of Heart Disease. Chapter 15, Introduction to Congenital Heart Disease Additional resource:(previously purchased for ECHO13006) Lang, R. (2016). ASE's Comprehensive Echocardiography. Philadelphia, PA: Elsevier Saunders. Section XXVI Chapters 164-169, pages 701-738	Cathy West Tutorial - AEST 8pm - see Moodle site for confirmation of tutorial date

Week 10 - CHD outside the echo lab - 23 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
CHD outside the echo lab: <ul style="list-style-type: none"> • Congenital Services overview • Other tests used in CHD: MVO2, CMR, CT, EPS • Syndromes associated with CHD. Marfan's, Noonan's, Downs, Williams, Turners, Scoliosis, etc. 	Anderson, B. A Sonographer's Guide to the Assessment of Heart Disease. Chapter 15, Introduction to Congenital Heart Disease Additional resource:(previously purchased for ECHO13006) Lang, R. (2016). ASE's Comprehensive Echocardiography. Philadelphia, PA: Elsevier Saunders. Section XXVI Chapters 164-169, pages 701-738 Non-invasive Imaging In Congenital Heart Disease (PDF can be found on Moodle)	ONLINE QUIZ Due: Week 10 Friday (27 Sept 2019) 10:00 pm AEST

Week 11 - Bringing it all together - 30 Sep 2019

Module/Topic	Chapter	Events and Submissions/Topic
Bringing it all together: <ul style="list-style-type: none"> • Clinical case studies • Revision material 	Anderson, B. A Sonographer's Guide to the Assessment of Heart Disease. Chapter 15, Introduction to Congenital Heart Disease Additional resource:(previously purchased for ECHO13006) Lang, R. (2016). ASE's Comprehensive Echocardiography. Philadelphia, PA: Elsevier Saunders. Section XXVI Chapters 164-169, pages 701-738 Case Study Resources: http://www.bsecho.org/congenital-heart-disease/ http://heart.bmj.com/content/80/suppl_1_S12	Cathy West Tutorial - AEST 8pm - see Moodle site for confirmation of tutorial date

Week 12 - Revision - 07 Oct 2019

Module/Topic	Chapter	Events and Submissions/Topic
<ul style="list-style-type: none"> • Revision 		

Review/Exam Week - 14 Oct 2019

Module/Topic	Chapter	Events and Submissions/Topic
		Standard exam block. You will need to allocate 180 minutes to complete the test.

Exam Week - 21 Oct 2019

Module/Topic	Chapter	Events and Submissions/Topic

Term Specific Information

Cathy West is the Principle Echocardiographer at the renowned Royal Brompton Hospital in London. Cathy began her career in Cardiac Sonography 20 years ago at the Prince Charles Hospital in Brisbane, Australia. Cathy specialises in adult congenital heart disease, and is a popular international speaker. In this unit, Cathy will be presenting pre-recorded lectures covering a variety of congenital cardiac pathologies and their associated Echocardiographic assessment. Live tutorials will be hosted by Cathy as outlined in the schedule displayed on Moodle site. These will be recorded and subsequently posted under the corresponding week on Moodle site. The tutorials will focus on clarification of theoretical concepts and assessment requirements. Clinical case studies will also be shown, demonstrating practical application of the theoretical content. Both Cathy West and the Unit Coordinator Laura Wylie will be monitoring posts on the 'Q&A' forum. Content specific questions may require a response from Cathy. Given Cathy resides in London, please note that some responses may have a time delay of several days. For questions of a personal nature, please do not hesitate to contact the Unit Coordinator Laura Wylie directly by email: l.wylie@cqu.edu.au or phone 02 9324 5051.

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 9. Questions may be drawn from lectures, additional resources provided or tutorial presentations. This quiz can be accessed through the assessment tab on Moodle at the assigned time.

- The online quiz will comprise of 6 pages.
- Each page of the online quiz may contain a singular question or multiple questions.
- Questions may be multiple choice, short answer, image interpretation or essay style format.
- The online quiz will be open for 70 minutes allowing you approximately 12 minutes to complete each page.
- The online quiz will be marked out of 60 marks. Each page of the online test will be worth a total of 10 marks.

You are permitted ONE attempt to complete the online quiz, and once started, the quiz cannot be paused or restarted. As the quiz is online and open book, you will find it useful if you have produced your own notes from the lectures and that you are familiar with the unit information. Questions will be drawn from a resource bank and randomised, to allow quizzes to be different for each student. You may benefit from having a calculator available when sitting the test. This assessment is to be undertaken as an individual. As with all other university examination, colluding with other students on non-group work tasks is considered academic misconduct, and may lead to action being taken 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

Week 10 Friday (27 Sept 2019) 10:00 pm AEST

The quiz will be open from Wednesday 25th September at 9 AM and will shut on Friday 27th September at 10 PM AEST.

Return Date to Students

Results will be made available once submissions have been marked and moderated.

Weighting

40%

Assessment Criteria

You will be required to answer a variety of online questions. These questions may be short answer or essay style, multiple choice or film viewing questions. Film viewing questions will require you to be familiar with both normal and pathological echocardiographic and anatomical images.

Question responses will be assessed according to the:

- use of appropriate terminology and descriptors as well as grammar and spelling
- student's ability to appropriately interpret presented sonographic images and cardiac assessment data
- student's ability to succinctly respond with accurate answers

Referencing Style

- [Vancouver](#)

Submission

Online

Submission Instructions

The online quiz is accessed via the assessment tab in Moodle. Once the quiz is commenced, it cannot be paused, stopped or re-started and once you have completed the quiz, it cannot be retaken. The online quiz will be open from 9.00am Wednesday 25th of September to 10.00pm Friday 27th of September during week 10 (AEST). Please note: You must commence the quiz before Friday 8.00pm as the quiz will automatically close at 10.00pm on Friday. If you have not completed the quiz by this time, your quiz may be submitted with no answers. It is your responsibility to ensure you have the quiz completed before 10.00pm on Friday 27th of September 2019.

Learning Outcomes Assessed

- 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.

Graduate Attributes

- Communication
- Problem Solving
- Critical Thinking

Examination

Outline

Complete an invigilated examination.

Date

During the examination period at a CQUniversity examination centre.

Weighting

60%

Length

180 minutes

Minimum mark or grade

A minimum pass mark of 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