



ECHO11002 Cardiac Structure and Function

Term 2 - 2017

Profile information current as at 26/04/2024 08:39 pm

All details in this unit profile for ECHO11002 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.

Corrections

Unit Profile Correction added on 28-08-17

The following changes are all within the ECHO11002 'Assessment Tasks' and apply to the Practical Assessment Task Description section. These changes are to align the assessment task with the following learning outcomes: 4. Identify basic principle features of an Electrocardiogram (ECG) 5. Perform an Electrocardiogram (ECG) and 24 hour Holter test CHANGE 1 Practical Assessment - Task Description section to have the following DELETED: This assessment challenges students' ability to perform the basic routine cardiac assessment - ECG - including basic interpretation and instead REPLACED with the following: This assessment challenges your ability to perform the basic ECG and Holter tests CHANGE 2 Practical Assessment - Task Description - Practical Skill Test Requirements section to have the following ADDED: 2. Students are required to set up a 24 hour Holter test to beginner level competency in a specified time frame (20 minutes). CHANGE 3 Practical Assessment - Task Description - Interpretive Skills section to have the following part DELETED: Basic ECG interpretation (normal variants included), interpretation of selected congenital variants and interpretation of one ECG using the standard approach once completed students will be randomly selected to interpret one ECG along with 3 randomly selected congenital variants. once completed students will be randomly selected to interpret one ECG. The ECG must be interpreted via the standard approach. and instead REPLACED with the following: 1. Basic evaluation of normal ECG components

General Information

Overview

Accurate assessment and performance of echocardiograms requires you to assemble a comprehensive knowledge of the anatomy, embryology, physiology, and echocardiographic appearance of the heart and surrounding structures. In this unit you will develop an understanding of cardiac structure and function which is essential for the performance of high quality examinations and is requisite to quality patient care. This knowledge will be applied to normal echocardiographic images, Electrocardiogram (ECG) and other cardiac assessment data. This unit requires attendance at a residential school both for practical work and an in-class test.

Details

Career Level: *Undergraduate*

Unit Level: *Level 1*

Credit Points: 6

Student Contribution Band: 8

Fraction of Full-Time Student Load: 0.125

Pre-requisites or Co-requisites

Pre-requisite Students must be enrolled in either: CV69 Bachelor of Echocardiography (Cardiac Physiology)/Graduate Diploma of Echocardiography or CV68 Bachelor of Cardiac Physiology

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 - 2017

- Distance
- 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).

Residential Schools

This unit has a Compulsory Residential School for distance mode students and the details are:

Click here to see your [Residential School Timetable](#).

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. **Practical Assessment**

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 Post Residential school survey

Feedback

Highly interactive residential school covered all learning outcomes - extend hands on component

Recommendation

Residential school will run 2 full days with the ALS course to be completed after

Feedback from moodle

Feedback

Replace some web resources with textbook chapters or text book

Recommendation

will assign online textbook used in Anatomy and Physiology units

Feedback from moodle

Feedback

Weeknight 1hr tutorials on zoom extended learning to practical level

Recommendation

retain weekly zoom tutorials

Feedback from moodle

Feedback

Guest lecturers lacked consistency in format

Recommendation

more consistent lectures by course coordinator

Unit Learning Outcomes

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

1. Describe the anatomy and physiology of the cardiovascular and respiratory systems, including their relationship to neighbouring structures
2. Explain the embryological development of the cardiovascular and respiratory system
3. Contrast cardiac and coronary blood flow
4. Identify basic principle features of an Electrocardiogram (ECG)
5. Perform an Electrocardiogram (ECG) and 24 hour Holter tests

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

Textbooks and Resources

Textbooks

ECHO11002

Prescribed

12-Lead ECG: The Art Of Interpretation (Garcia, Introduction to 12-Lead ECG) 2nd Edition

Edition: 2nd (2013)

Authors: T Garcia

Jones & Bartlett Learning

LLC , LLC , USA

ISBN: ISBN-10: 0763773514

Binding: Paperback

ECHO11002

Prescribed

Cardiology and Cardiac Catheterisation: The Essential Guide

Edition: 1st (2001)

Authors: John Boland, David Muller

Taylor and Francis

London , London , UK

ISBN: 9058231313, 9789058231314

Binding: Hardcover

ECHO11002

Prescribed

ECG: Essentials of Electrocardiography

Edition: 2016 (2016)

Authors: Cathy Soto

Cengage Learning US

US , US , US

ISBN: 9781285180984

Binding: Paperback

[View textbooks at the CQUniversity Bookshop](#)

IT Resources

You will need access to the following IT resources:

- CQUniversity Student Email
- Internet
- Unit Website (Moodle)
- St Jude / Abbott ECG learning centre online

Referencing Style

All submissions for this unit must use the referencing style: [American Psychological Association 6th Edition \(APA 6th edition\)](#)

For further information, see the Assessment Tasks.

Teaching Contacts

Deanne Chester Unit Coordinator

d.chester@cqu.edu.au

Schedule

Week 1 - 10 Jul 2017

Module/Topic	Chapter	Events and Submissions/Topic
Cardiac Anatomy - Part 1 Revision and introduction of cardiac and respiratory anatomy with reference to ECG, the cath lab and echocardiography. ECHO - basic scanning windows, revision of Echo terminology	CRO Draw it to know it	

Week 2 - 17 Jul 2017

Module/Topic	Chapter	Events and Submissions/Topic
Cardiac Anatomy part 2 ECG - introduction 24 hrs Holter monitor - introduction	Garcia Chapters 1 - 3 Self Directed learning textbook please have all chapters completed by end of the unit. CRO	Online quiz 1 Compulsory tutorial

Week 3 - 24 Jul 2017

Module/Topic	Chapter	Events and Submissions/Topic
Embryology development part 1 ECG - tools	Garcia Chapters 4 -5	Online quiz 2 Compulsory tutorial

Week 4 - 31 Jul 2017

Module/Topic	Chapter	Events and Submissions/Topic
Embryology development part 2 ECG - the beat	Garcia Chapters 6 - 7 CRO	Compulsory tutorial

Week 5 - 07 Aug 2017

Module/Topic	Chapter	Events and Submissions/Topic
Embryology development part 3 Echo - Basic scanning windows part 1 Using echo images to assess anatomy and function of the chambers	Garcia Chapters 8	Online quiz 3

Vacation Week - 14 Aug 2017

Module/Topic	Chapter	Events and Submissions/Topic
Vacation week	12-Lead ECG: The Art Of Interpretation (Garcia, Introduction to 12-Lead ECG) 2nd Edition	

Week 6 - 21 Aug 2017

Module/Topic	Chapter	Events and Submissions/Topic
Physiology of the heart part 1 ECG - p wave	CRO Garcia Chapters 9	Compulsory tutorial

Week 7 - 28 Aug 2017

Module/Topic	Chapter	Events and Submissions/Topic
Physiology of the heart part 2 ECG - QRS	CRO Garcia Chapters 10	Online quiz 4 Compulsory tutorial

Week 8 - 04 Sep 2017

Module/Topic	Chapter	Events and Submissions/Topic
Cardiac, coronary and fetal blood flow	online resources CRO	

Week 9 - 11 Sep 2017

Module/Topic	Chapter	Events and Submissions/Topic

Embryology development
ECG - practical testing
Holter - practical set up
ECHO - practical scanning
RESIDENTIAL SCHOOL

Practical Assessment - ECG Due:
Week 9 Friday (15 Sept 2017) 9:00 am
AEST

Week 10 - 18 Sep 2017

Module/Topic	Chapter	Events and Submissions/Topic
Cardiac, coronary and fetal blood flow part 2 - haemodynamics	CRO	

Week 11 - 25 Sep 2017

Module/Topic	Chapter	Events and Submissions/Topic
CCL - introduction to the cardiac catheter laboratory (CCL) Assessment of cardiac coronary anatomy and function using CCL imaging	CRO	

Week 12 - 02 Oct 2017

Module/Topic	Chapter	Events and Submissions/Topic
Revision		

Review/Exam Week - 09 Oct 2017

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

Exam Week - 16 Oct 2017

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

Term Specific Information

In addition to the prescribed texts, you are required to obtain and work individually through the 12 Lead ECG workbook.

12-Lead ECG: The Art Of Interpretation (Garcia, Introduction to 12-Lead ECG) 2nd Edition
The text Cardiology and Cardiac Catheterisation: The Essential Guide - is currently being updated to an e-book. For this term the author John Boland will provide the pages needed for this unit.

To give yourself the best chance of success with this unit, ensure you attempt the prescribed activities each week and make use of study groups to generate discussion around your answers. Access to the Internet is required as updates throughout the unit will be provided on the unit Moodle site, discussion boards, via email, and collaborate.

Assessment Tasks

1 Practical Assessment - ECG

Assessment Type

Practical Assessment

Task Description

This assessment challenges students' ability to perform the basic routine cardiac assessment - ECG - including basic interpretation

The ECG test will be an introduction to the use of the Assessment of Readiness for Clinical tool (ARC Tool).

Aspects of an ECG test such as communication (verbal, non-verbal and written), professional behaviour, ergonomics, infection control and patient care skills will be included in the assessment marking criteria. In summary this is an assessment of the pre-test, the test, and post-test skills which will be discussed and emphasised in the unit, lectures and tutorials.

To achieve a pass, each part of assessment must be successfully completed.

Professional (pre/post test):

- Apply patient care and communication techniques to obtain a relevant patient history, informed consent and

- patient cooperation.
- Maintain patient modesty and comfort.
- Professionally care for equipment, including leads, and its' application.

Practical skills test requirements:


1. Students are required to perform a routine 12 lead ECG to beginner level competency in a specified time frame (15 minutes), including use of optimisation techniques and lead placement to achieve an interpretive trace.

Interpretive skills:

1. Basic ECG interpretation (normal variants included), interpretation of selected congenital variants and interpretation of one ECG using the standard approach and once completed students will be randomly selected to interpret one ECG along with 3 randomly selected congenital variants. once completed students will be randomly selected to interpret one ECG, The ECG must be interpreted via the standard approach.

2. Quiz on embryology of the cardiovascular and respiratory system. This will include identifying congenital variants as associated with particular developmental stage(s).

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

 Review the assessment information and ARC Tool posted on the unit Moodle site.

Assessment Due Date

Week 9 Friday (15 Sept 2017) 9:00 am AEST

Week 9 Day 2 of Residential school. Re-sits will be scheduled to occur on the same day.

Return Date to Students

Week 10 Friday (22 Sept 2017)

Weighting

40%

Minimum mark or grade

65%

Assessment Criteria

As per Assessment of Coursework Procedures (Section 3 Assessment Extensions), item 3.2.5, 'these practical tests are considered professional assessment tasks and have an absolute submission date. Accordingly, these assessments must be completed by/on the specified date. 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'.

The tutor will observe the student's performance of the full procedure and assess each task relative to the stated standards of the Assessment of Readiness for Clinical (ARC) tool. The ARC tool and supporting details can be found on the unit Moodle site.

The skills test will assess technique, optimisation, demonstration of interpretation of indirect anatomy on trace and adherence to protocol.

The non-scanning component will assess communication, professional behaviour, patient care and infection control, patient modesty, and ergonomics.

MCQ will test knowledge and understanding of embryology of the cardiovascular and respiratory system.

Be aware that ALL practical skills tests will be moderated.

The minimum pass rate on the skills test is 65%

Referencing Style

- [American Psychological Association 6th Edition \(APA 6th edition\)](#)

Submission

Offline Online

Learning Outcomes Assessed

- Explain the embryological development of the cardiovascular and respiratory system
- Identify basic principle features of an Electrocardiogram (ECG)
- Perform an Electrocardiogram (ECG) and 24 hour Holter tests

Graduate Attributes

- Communication
- Problem Solving
- Information Literacy
- Team Work
- Information Technology Competence
- Cross Cultural Competence
- Ethical practice

Examination

Outline

Complete an invigilated examination.

Date

During the examination period at a CQUniversity examination centre.

Weighting

60%

Length

120 minutes

Minimum mark or grade

You must obtain 50% of the maximum marks available to achieve a passing grade.

Exam Conditions

Closed Book.

Materials

Calculator - non-programmable, no text retrieval, silent only

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

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