



ECHO11002 Cardiac Structure and Function

Term 2 - 2024

Profile information current as at 29/07/2024 03:49 pm

All details in this unit profile for ECHO11002 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

Accurate assessment of cardiac function requires comprehensive knowledge of anatomy, embryology, and physiology of the heart, lungs and surrounding structures. You will develop familiarity with the spatial relationship of thoracic structures and the heart. This unit exposes you to data acquired from multiple imaging modalities, including angiography, electrocardiograms (ECG), and echocardiography. You will explore normal ECG complexes, learn how a standard 12-lead ECG is generated, and learn to competently perform a standard 12-lead ECG. Attendance at a residential school is a requirement of this unit.

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 CV69 Bachelor of Echocardiography (Cardiac Physiology)/Graduate Diploma of Echocardiography AND Co-requisite: BMSC11002 Human Body Systems 2 or BMSC11011 Human Anatomy and Physiology 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 - 2024

- Mixed Mode

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. **Online Quiz(zes)**

Weighting: 60%

2. **Practical Assessment**

Weighting: Pass/Fail

3. **Online Test**

Weighting: 40%

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 Student Unit and Teaching Evaluation

Feedback

Students requested increased quiz feedback provision.

Recommendation

Quiz setup will be reviewed, to improve general and specific student feedback provision post attempt.

Feedback from Residential school feedback form

Feedback

Students appreciated the practical learning experienced in the residential school.

Recommendation

The residential school schedule and laboratory manual will continue to be revised, with an emphasis placed on incorporation of learning activities that focus on a hands-on approach. The embryology activity will continue in the next delivery to foster student understanding of heart development.

Feedback from Student Unit and Teaching Evaluation

Feedback

Students responded positively to question and answer style tutorial deliveries.

Recommendation

Current tutorial style will remain consistent.

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 system
2. Identify anatomical structures on diagrams and medical images of the thorax and cardiovascular system
3. Describe the embryological development of the cardiovascular system
4. Explain the formation of an electrocardiogram (ECG) complex, and its representation on a normal 12-lead ECG
5. Perform a 12-lead ECG.

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) - 60% | • | • | | • | |
| 2 - Practical Assessment - 0% | | | | | • |
| 3 - Online Test - 40% | • | • | • | | |

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 | | | | | |

Textbooks and Resources

Textbooks

ECHO11002

Prescribed

Echocardiography: The Normal Examination and Echocardiographic Measurements

Edition: 3rd (2017)

Authors: Bonita Anderson

Echotext
AUS
ISBN: 0992322219
Binding: Hardcover
ECHO11002

Prescribed

Introduction to the 12-Lead ECG: The Art of Interpretation

Edition: 2nd (2015)
Authors: Tomas Garcia
Jones & Bartlett Learning
Burlington , MA , USA
ISBN: 9781284040883
Binding: Paperback
ECHO11002

Supplementary

Before We Are Born: Essentials of Embryology and Birth Defects

Edition: 10th (2019)
Authors: Keith Moore, T. V. N. Persaud, Mark Torchia
Elsevier
Philadelphia , PA , USA
ISBN: 9780323608503
Binding: eBook
ECHO11002

Supplementary

Kern's Cardiac Catheterization Handbook

Edition: 7th (2019)
Authors: Paul Sorajja, Michael J Lim and Morton J. Kern.
Elsevier
Philadelphia , PA , USA
ISBN: 9780323597739
Binding: eBook
ECHO11002

Supplementary

Pathophysiology of Heart Disease: A Collaborative Project of Medical Students and Faculty

Edition: 6th (2015)
Authors: Leonard S. Lilly
Wolters Kluwer Health
Hagerstown , MD , USA
ISBN: 9781451192759
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

Angie Gao Unit Coordinator
y.gao@cqu.edu.au

Schedule

Week 1 - 08 Jul 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|-----------------|-------------------|------------------------------|
| Cardiac anatomy | See eReading List | |

Week 2 - 15 Jul 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------------|-------------------|------------------------------|
| Cardiac physiology | See eReading List | |

Week 3 - 22 Jul 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|------------------------------------|-------------------|---|
| Respiratory anatomy and physiology | See eReading List | Online Quiz 1 opens at 08:00 am AEST on Monday 22nd of July and closes at 08:00 pm AEST on Tuesday 23rd of July. |

Week 4 - 29 Jul 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|------------------|-------------------|------------------------------|
| Echocardiography | See eReading List | |

Week 5 - 05 Aug 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|-----------------------|-------------------|---|
| Electrocardiography 1 | See eReading List | Online Quiz 2 opens at 08:00 am AEST on Monday 5th of August and closes at 08:00 pm AEST on Tuesday 6th of August. |

Vacation Week - 12 Aug 2024

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

Week 6 - 19 Aug 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|-----------------------|-------------------|------------------------------|
| Electrocardiography 2 | See eReading List | |

Week 7 - 26 Aug 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|---------------------------|-------------------|---|
| Cardiac catheterisation 1 | See eReading List | Online Quiz 3 opens at 08:00 am AEST on Monday 26th of August and closes at 08:00 pm AEST on Tuesday 27th of August. |

Week 8 - 02 Sep 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|---------------------------|-------------------|------------------------------|
| Cardiac catheterisation 2 | See eReading List | |

Week 9 - 09 Sep 2024

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

Embryology 1

See eReading List

Online Quiz 4 opens at 08:00 am AEST on Monday 9th of September and closes at 08:00 pm AEST on Tuesday 10th of September.
ECG Practical Assessment Week 9 on Friday 13th of September.

Week 10 - 16 Sep 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------|-------------------|------------------------------|
| Embryology 2 | See eReading List | |

Week 11 - 23 Sep 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------|-------------------|------------------------------|
| Embryology 3 | See eReading List | |

Week 12 - 30 Sep 2024

| Module/Topic | Chapter | Events and Submissions/Topic |
|--------------|---------|--|
| Revision | | Online Test opens at 08:00 am AEST on Thursday 3rd of October and closes at 08:00 pm AEST on Friday 4th of October. |

Review/Exam Week - 07 Oct 2024

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

Exam Week - 14 Oct 2024

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

Term Specific Information

The Unit Coordinator for ECHO11002 is Angie Gao.

Angie's office days are Monday's, Tuesday's and Wednesday's and Angie is located on Sydney campus. The best method to contact Angie is via email at y.gao@cqu.edu.au.

The most efficient and preferred method of contacting your unit coordinator is via the Q & A forum located on the unit Moodle site. If your query is of a personal nature, please contact Angie directly via email.

Unit study commitment:

This unit will be delivered online with lectures and reading material available to you through the unit Moodle site. Tutorials will be conducted weekly via live zoom with links provided on the Moodle site.

A mandatory residential school will be conducted during week 9 on Thursday 12th and Friday 13th September.

Students enrolled in ECHO11002 should allocate around 12.5 hours per week to fulfill their course requirements.

Assessment Tasks

1 Online Quizzes

Assessment Type

Online Quiz(zes)

Task Description

This assessment task will require you to complete four (4) separate quizzes. Each quiz will assess your understanding of the content presented within this unit as outlined below.

Online Quiz 1 (Week 3): Cardiac anatomy and physiology

Online Quiz 2 (Week 5): Respiratory and physiology, and echocardiography

Online Quiz 3 (Week 7): Electrocardiography

Online Quiz 4 (Week 9): Cardiac catheterisation

Questions may be drawn from lectures, additional resources provided (e.g. prescribed readings) or tutorial presentations.

- As each quiz is online and open book, you will find it useful if you have produced your own notes from the lectures so that you are familiar with the unit information.
- Questions will be drawn from a resource bank, to allow each quiz to be different for each student.
- It is recommended that you have a calculator available when sitting the online quiz(zes).

Each Online Quiz is worth 15% of the overall weighting. To PASS this assessment task, each Online Quiz must be attempted and a minimum of 50% must be achieved from the combined 'overall' mark from Quiz 1, 2, 3 and 4.

Each Quiz can be accessed through the assessment tab on Moodle at the assigned time.

- Each Quiz will be marked out of 30 marks.
- You will have 40 minutes to complete each quiz which includes 10 minutes perusal time.
- The duration of each Quiz is tailored to promote recall of facts, rather than research of answers unknown. Please note:
- Once started, each Quiz cannot be paused or restarted.
- The quiz will automatically close and submit completed answers once the allocated time has elapsed.
- Only one attempt per Quiz is permitted.

This assessment must be completed as an individual. Colluding with other students on non-group work tasks is considered academic misconduct. Additionally, employing Gen AI to generate your assessment task responses is also classified as academic misconduct. Any breaches of academic misconduct may lead to action being taken by the Deputy Dean of Learning and Teaching, HMAS.

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

Recommendations:

- TASAC hours of operation are 7.30 am - 6:00 pm AEST Monday - Friday Tel: (07) 49309090.
- It is recommended that you sit your Online Quiz(zes) during these hours in case IT assistance is required.
- If any problems occur, please contact the Unit Coordinator and TASAC straight away. Please screenshot any computer errors to illustrate claims.
- Sit your Online Quiz on campus if you have any concerns about home internet reliability.

Number of Quizzes

4

Frequency of Quizzes

Assessment Due Date

Online Quiz 1 (15%) opens at 08:00 am AEST on Monday 22nd of July and closes at 08:00 pm AEST on Tuesday 23rd of July; Online Quiz 2 (15%) opens at 08:00 am AEST on Monday 5th of August and closes at 08:00 pm AEST on Tuesday 6th of August; Online Quiz 3 (15%) opens at 08:00 am AEST on Monday 26th of August and closes at 08:00 pm AEST on Tuesday 27th of August; Online Quiz 4 (15%) opens at 08:00 am AEST on Monday 9th of September and closes at 08:00 pm AEST on Tuesday 10th of September.

Return Date to Students

Students will receive feedback within two (2) weeks of the closing date of each quiz.

Weighting

60%

Minimum mark or grade

50%

Assessment Criteria

Grading is based on the student's ability to:

- Interpret presented data and images;
- Describe concepts clearly and concisely;
- Use appropriate terminology and descriptors; and
- Apply correct spelling and grammar.

Referencing Style

- [Vancouver](#)

Submission

Online

Submission Instructions

Access and submit the Online Quizzes via ECHO11002 Moodle.

Learning Outcomes Assessed

- Describe the anatomy and physiology of the cardiovascular and respiratory system
- Identify anatomical structures on diagrams and medical images of the thorax and cardiovascular system
- Explain the formation of an electrocardiogram (ECG) complex, and its representation on a normal 12-lead ECG

2 ECG Practical Assessment

Assessment Type

Practical Assessment

Task Description

- Students will be required to demonstrate the performance of a 12-Lead ECG.
- This task will take place during the compulsory week 9 residential school, on the student campus of enrolment.
- Students will be provided tuition and opportunity to practice during the residential school.
- This practical assessment must be completed within a 20 minute time frame.

In the absence of an approved extension, the ECG Practical Assessment can not be completed at a later time. Re-attempt opportunity will be provided for a failed task on the same day as the original attempt.

Assessment Due Date

The ECG Practical Assessment must be completed during the mandatory residential school in Week 9.

Return Date to Students

Students will receive feedback during the mandatory residential school in Week 9 Friday 13th of September 2024.

Weighting

Pass/Fail

Assessment Criteria

A detailed ECG practical ARC tool is available on ECHO11002 Moodle. This is a pass/fail assessment. All criteria outlined must be achieved to pass this assessment.

- Perform appropriate hand hygiene, patient identification, patient consent and maintain patient modesty;
- Satisfactory skin preparation;
- Satisfactory lead placement identification and attachment;
- Obtain interpretable and complete ECG tracing;
- Correctly optimise machine settings and perform basic troubleshooting.

Referencing Style

- [Vancouver](#)

Submission

Offline

Submission Instructions

The ECG Practical Assessment must be completed during the mandatory residential school in Week 9.

Learning Outcomes Assessed

- Perform a 12-lead ECG.

3 Online Test

Assessment Type

Online Test

Task Description

This Online Test will assess your understanding of content presented within this unit, including cardiac and respiratory anatomy, physiology, associated diagnostic modalities and embryology.

Questions may be drawn from lectures, additional resources provided (e.g. prescribed readings), tutorial presentations

or the residential school.

- The Online Test questions may include question types such as short answer, multiple choice and image interpretation format.
- Questions will be drawn from a resource bank, to allow each quiz to be different for each student.
- It is recommended that you have a calculator available when sitting the Online Test.
The Online Test can be accessed through the assessment tab on Moodle at the assigned time.
- The Online Test will be marked out of 80 marks.
- You will have 90 minutes to complete the online test, and this includes perusal time.
- The duration of the Online Test is tailored to promote recall of facts, rather than research of answers unknown.

Please note:

- Once started, the test cannot be paused or restarted.
- The test will automatically close and submit completed answers once the allocated time has elapsed.
- Only one attempt is permitted.

This assessment must be completed as an individual. Colluding with other students on non-group work tasks is considered academic misconduct. Additionally, employing Gen AI to generate your assessment task responses is also classified as academic misconduct. Any breaches of academic misconduct may lead to action being taken by the Deputy Dean of Learning and Teaching, HMAS.

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

Recommendations:

- TASAC hours of operation are 7.30 am - 6:00 pm AEST Monday - Friday Tel: (07) 49309090.
- It is recommended that you sit your online test during these hours in case IT assistance is required. If any problems occur, please contact the Unit Coordinator and TASAC straight away. Please screenshot any computer errors to illustrate claims.
- Sit your Online Test on campus if you have any concerns about home internet reliability.

Assessment Due Date

Online Test opens at 08:00 am AEST on Thursday 3rd of October 2024 and closes at 08:00 pm AEST on Friday 4th of October 2024.

Return Date to Students

Individual results will be published within two (2) weeks of the due date

Weighting

40%

Minimum mark or grade

50%

Assessment Criteria

Grading is based on the student's ability to:

- Interpret presented data and images;
- Describe concepts clearly and concisely;
- Use appropriate terminology and descriptors; and
- Apply correct spelling and grammar.

Referencing Style

- [Vancouver](#)

Submission

Online

Submission Instructions

Access and submit the Online Test via ECHO11002 Moodle.

Learning Outcomes Assessed

- Describe the anatomy and physiology of the cardiovascular and respiratory system
- Identify anatomical structures on diagrams and medical images of the thorax and cardiovascular system
- Describe the embryological development of the cardiovascular system

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