



MEDI211

Cardiorespiratory System

S2 Day 2019

Medicine and Health Sciences Faculty level units

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General Information

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Credit points

3

Prerequisites

((12cp at 100 level or above) including HLTH108) and admission to BClinSc

Corequisites

Co-badged status

Unit description

In this unit you will develop a deep understanding of the anatomy and physiology of the cardiovascular and respiratory body systems, knowledge of the mechanisms that maintain homeostasis in these coordinated systems, and the ability to relate cardiorespiratory diseases to their underlying pathophysiological pathways. You will learn how to measure blood pressures, palpate peripheral pulses, listen to heart sounds, record an electrocardiogram (ECG), and explain how blood pressure changes throughout the vascular system. You will also learn how to perform bronchoscopy, listen to breath sounds, and analyse spirometry data. Dynamic cardiovascular and respiratory responses to exercise and exercise training will be studied, as well as the coordinated cardiorespiratory contributions to acid-base balance in the body. You will critically consider scientific and medical evidence in cardiorespiratory contexts to inform experimental design and individual decision-making. Modality of delivery will cross anatomy demonstration, simulations, hands-on measurement, and presentation of material from experts in the field.

Important Academic Dates

Information about important academic dates including deadlines for withdrawing from units are available at <https://www.mq.edu.au/study/calendar-of-dates>

Learning Outcomes

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

Describe the histological and anatomical structures of the cardiovascular and respiratory systems.

Explain the functions of the cardiovascular and respiratory system, as well as the mechanisms that maintain homeostasis in these coordinated systems.

Relate knowledge of cardiorespiratory structure and function to disease processes and potential healthcare interventions.

Outline the cardiorespiratory responses to exercise and exercise training, as well as cardiorespiratory contributions to acid-base balance in the body.

Evaluate and summarise scientific and medical literature in cardiorespiratory contexts to

inform experimental design and individual decision-making.

Effectively participate in scheduled activities and in peer teams, seeking and reflecting on feedback, to improve individual and group performance.

General Assessment Information

Grade descriptors and other information concerning grading are contained in Schedule 1 of the Macquarie University Assessment Policy, which is available at: <https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policies/assessment>.

Further details for each assessment task will be available on iLearn.

All final grades in the Bachelor of Clinical Science are determined by a grading committee and are not the sole responsibility of the Unit Convenor.

Students will be awarded a final grade plus a Standardised Numerical Grade (SNG). The SNG is not necessarily a summation of the individual assessment components. The final grade and SNG that are awarded reflect the corresponding grade descriptor in the Grading Policy.

To pass this unit, students must demonstrate sufficient evidence of achievement of the learning outcomes, attempt all assessment tasks, meet any ungraded requirements including professionalism and achieve an SNG of 50 or better.

Student Professionalism

In the Faculty of Medicine and Health Sciences, professionalism is a key capability embedded in all our courses. As part of developing professionalism, students are expected to attend all small group interactive sessions including tutorials, as well as clinical- and laboratory-based practical sessions.

Furthermore, lectures and seminars are key learning activities that you are expected to attend throughout completion of the Bachelor of Clinical Science. While audio recordings and lecture slides may be made available following these large group sessions, it is important to recognise that such resources are a study aid - and should not be considered an alternative to lecture or seminar attendance.

Students are required to attend a minimum of 80% of all small group interactive sessions. Students that do not meet this requirement may be deemed unable to meet expectations regarding professionalism and may be referred for disciplinary action (which may include exclusion from assessments and unit failure).

Similarly, as part of developing professionalism, students are expected to submit all work by the due date. Applications for assessment task extensions must be supported by appropriate evidence and submitted via www.ask.mq.edu.au. For further details please refer to the Special Consideration Policy available at <https://students.mq.edu.au/study/my-study-program/special-consideration>.

Late Submission

All assignments which are officially received after the due date, and where no extension has

been granted, will incur a deduction of 5% for the first day, and 5% for each subsequent day including the actual day on which the work is received. Weekends and public holidays are included. For example:

Due date	Received	Days late	Deduction	Raw mark	Final mark
Friday 14th	Monday 17th	3	15%	75%	60%

Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Formative on-line quiz</u>	0%	No	Week 3
<u>Practical exam</u>	25%	No	Week 10
<u>Hypothesis testing, reporting</u>	25%	No	Week 6 and 12
<u>Exam</u>	50%	No	Examination period

Formative on-line quiz

Due: **Week 3**

Weighting: **0%**

Assessment on content delivered in weeks 1 to 3. Provides formative feedback prior to census.

On successful completion you will be able to:

- Explain the functions of the cardiovascular and respiratory system, as well as the mechanisms that maintain homeostasis in these coordinated systems.
- Relate knowledge of cardiorespiratory structure and function to disease processes and potential healthcare interventions.

Practical exam

Due: **Week 10**

Weighting: **25%**

Practical examination conducted during class time. The test will assess content covered in the anatomy and simulation practical sessions.

On successful completion you will be able to:

- Describe the histological and anatomical structures of the cardiovascular and respiratory systems.
- Effectively participate in scheduled activities and in peer teams, seeking and reflecting

on feedback, to improve individual and group performance.

Hypothesis testing, reporting

Due: **Week 6 and 12**

Weighting: **25%**

Report in conventional scientific format. Introduction and discussion sections to be completed individually while methods and results, as well as any practical experiments, may be completed in groups.

On successful completion you will be able to:

- Relate knowledge of cardiorespiratory structure and function to disease processes and potential healthcare interventions.
- Outline the cardiorespiratory responses to exercise and exercise training, as well as cardiorespiratory contributions to acid-base balance in the body.
- Evaluate and summarise scientific and medical literature in cardiorespiratory contexts to inform experimental design and individual decision-making.
- Effectively participate in scheduled activities and in peer teams, seeking and reflecting on feedback, to improve individual and group performance.

Exam

Due: **Examination period**

Weighting: **50%**

Formal examination using a combination of question types. This task is completed under examination conditions during the University examination period.

On successful completion you will be able to:

- Describe the histological and anatomical structures of the cardiovascular and respiratory systems.
- Explain the functions of the cardiovascular and respiratory system, as well as the mechanisms that maintain homeostasis in these coordinated systems.
- Relate knowledge of cardiorespiratory structure and function to disease processes and potential healthcare interventions.
- Outline the cardiorespiratory responses to exercise and exercise training, as well as cardiorespiratory contributions to acid-base balance in the body.
- Evaluate and summarise scientific and medical literature in cardiorespiratory contexts to inform experimental design and individual decision-making.

Delivery and Resources

Technology Used

Active participation in the learning activities throughout the unit will generally require students to have access to a tablet, laptop or similar device. Students who do not own their own laptop computer may borrow one from the university library.

Recommended Readings

Unit readings are available via the [university library website through Leganto](#).

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central>). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)
- [Assessment Policy](#)
- [Fitness to Practice Procedure](#)
- [Grade Appeal Policy](#)
- [Complaint Management Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#) (**Note:** *The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.*)

Undergraduate students seeking more policy resources can visit the [Student Policy Gateway](https://students.mq.edu.au/support/study/student-policy-gateway) (<https://students.mq.edu.au/support/study/student-policy-gateway>). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit [Policy Central](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central>).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/study/getting-started/student-conduct>

Results

Results published on platform other than [eStudent](#), (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit ask.mq.edu.au or if you are a Global MBA

student contact globalmba.support@mq.edu.au

Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study strategies to improve your marks and take control of your study.

- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module for Students](#)
- [Ask a Learning Adviser](#)

Student Services and Support

Students with a disability are encouraged to contact the [Disability Service](#) who can provide appropriate help with any issues that arise during their studies.

Student Enquiries

For all student enquiries, visit Student Connect at ask.mq.edu.au

If you are a Global MBA student contact globalmba.support@mq.edu.au

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.

Graduate Capabilities

Creative and Innovative

Our graduates will also be capable of creative thinking and of creating knowledge. They will be imaginative and open to experience and capable of innovation at work and in the community. We want them to be engaged in applying their critical, creative thinking.

This graduate capability is supported by:

Learning outcomes

- Evaluate and summarise scientific and medical literature in cardiorespiratory contexts to inform experimental design and individual decision-making.
- Effectively participate in scheduled activities and in peer teams, seeking and reflecting

on feedback, to improve individual and group performance.

Assessment tasks

- Practical exam
- Hypothesis testing, reporting
- Exam

Capable of Professional and Personal Judgement and Initiative

We want our graduates to have emotional intelligence and sound interpersonal skills and to demonstrate discernment and common sense in their professional and personal judgement. They will exercise initiative as needed. They will be capable of risk assessment, and be able to handle ambiguity and complexity, enabling them to be adaptable in diverse and changing environments.

This graduate capability is supported by:

Learning outcome

- Effectively participate in scheduled activities and in peer teams, seeking and reflecting on feedback, to improve individual and group performance.

Assessment tasks

- Practical exam
- Hypothesis testing, reporting

Discipline Specific Knowledge and Skills

Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession. They will be able to demonstrate, where relevant, professional technical competence and meet professional standards. They will be able to articulate the structure of knowledge of their discipline, be able to adapt discipline-specific knowledge to novel situations, and be able to contribute from their discipline to inter-disciplinary solutions to problems.

This graduate capability is supported by:

Learning outcomes

- Describe the histological and anatomical structures of the cardiovascular and respiratory systems.
- Explain the functions of the cardiovascular and respiratory system, as well as the mechanisms that maintain homeostasis in these coordinated systems.
- Relate knowledge of cardiorespiratory structure and function to disease processes and potential healthcare interventions.

- Outline the cardiorespiratory responses to exercise and exercise training, as well as cardiorespiratory contributions to acid-base balance in the body.
- Evaluate and summarise scientific and medical literature in cardiorespiratory contexts to inform experimental design and individual decision-making.

Assessment tasks

- Formative on-line quiz
- Practical exam
- Hypothesis testing, reporting
- Exam

Critical, Analytical and Integrative Thinking

We want our graduates to be capable of reasoning, questioning and analysing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity, in the workplace, and in the world. We want them to have a level of scientific and information technology literacy.

This graduate capability is supported by:

Learning outcomes

- Relate knowledge of cardiorespiratory structure and function to disease processes and potential healthcare interventions.
- Evaluate and summarise scientific and medical literature in cardiorespiratory contexts to inform experimental design and individual decision-making.

Assessment tasks

- Formative on-line quiz
- Hypothesis testing, reporting
- Exam

Problem Solving and Research Capability

Our graduates should be capable of researching; of analysing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge; and they should be able to relate their knowledge to complex situations at work or in the world, in order to diagnose and solve problems. We want them to have the confidence to take the initiative in doing so, within an awareness of their own limitations.

This graduate capability is supported by:

Learning outcomes

- Evaluate and summarise scientific and medical literature in cardiorespiratory contexts to

inform experimental design and individual decision-making.

- Effectively participate in scheduled activities and in peer teams, seeking and reflecting on feedback, to improve individual and group performance.

Assessment tasks

- Practical exam
- Hypothesis testing, reporting
- Exam

Effective Communication

We want to develop in our students the ability to communicate and convey their views in forms effective with different audiences. We want our graduates to take with them the capability to read, listen, question, gather and evaluate information resources in a variety of formats, assess, write clearly, speak effectively, and to use visual communication and communication technologies as appropriate.

This graduate capability is supported by:

Learning outcomes

- Describe the histological and anatomical structures of the cardiovascular and respiratory systems.
- Explain the functions of the cardiovascular and respiratory system, as well as the mechanisms that maintain homeostasis in these coordinated systems.
- Relate knowledge of cardiorespiratory structure and function to disease processes and potential healthcare interventions.
- Outline the cardiorespiratory responses to exercise and exercise training, as well as cardiorespiratory contributions to acid-base balance in the body.
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Assessment tasks

- Formative on-line quiz
- Practical exam
- Hypothesis testing, reporting
- Exam

Engaged and Ethical Local and Global citizens

As local citizens our graduates will be aware of indigenous perspectives and of the nation's historical context. They will be engaged with the challenges of contemporary society and with knowledge and ideas. We want our graduates to have respect for diversity, to be open-minded,

sensitive to others and inclusive, and to be open to other cultures and perspectives: they should have a level of cultural literacy. Our graduates should be aware of disadvantage and social justice, and be willing to participate to help create a wiser and better society.

This graduate capability is supported by:

Learning outcome

- Effectively participate in scheduled activities and in peer teams, seeking and reflecting on feedback, to improve individual and group performance.

Assessment tasks

- Practical exam
- Hypothesis testing, reporting