



MEDI2101

Cardiovascular and Respiratory System

Session 2, In person-scheduled-weekday, North Ryde 2024

Macquarie Medical School

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General Information

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Unit convenor, lecturer, physiology practical staff

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By appointment.

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Credit points
10

Prerequisites
(30cp at 1000 level or above including ANAT1001 or HLTH108) and admission to BClinSc

Corequisites

Co-badged status

Unit description

This unit introduces integrated learning of the anatomy and physiology of the cardiovascular and respiratory system. It focuses on: the mechanisms that maintain homeostasis in these coordinated systems including acid-base balance; a working knowledge of the dynamic cardiovascular and respiratory responses to physical challenges; the ability to relate cardiovascular and respiratory diseases to their underlying pathophysiological pathways. You will also critically consider scientific and medical evidence in cardiovascular and respiratory contexts to inform hypothesis generation, discussion and individual decision-making. Learning activities include instruction in anatomy and practical instruction on cardiovascular and respiratory measurements such as blood pressure, electrocardiograms, spirometry, and breath and heart sounds. This unit provides the basic knowledge of the cardiovascular and respiratory system required as a minimum for future medical studies and introduces an investigative knowledge basis for research in a biomedical or medical setting.

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:

ULO1: Describe the anatomical structures of the cardiovascular and respiratory systems.

ULO2: Explain the functions of the cardiovascular and respiratory system, as well as the mechanisms that maintain homeostasis in these coordinated systems.

ULO3: Relate knowledge of the structure and function of the cardiovascular and respiratory system to disease processes.

ULO4: Use biomedical literature and the method of scientific enquiry to outline the cardiovascular and respiratory response to physical challenges.

ULO5: 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 the [Macquarie University Assessment Policy](#).

All final grades are determined by a grading committee, in accordance with the Macquarie University Assessment Policy, and are not the sole responsibility of the Unit Convenor.

Students will be awarded a final grade and a mark, which must correspond to the grade descriptors specified in the [Assessment Procedure](#) (clause 128).

To pass this unit, you must demonstrate sufficient evidence of achievement of the learning outcomes, meet any ungraded requirements, and achieve a final mark of 50 or better.

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

Late Submissions

Unless a Special Consideration request has been submitted and approved, a 5% penalty (OF THE TOTAL POSSIBLE MARK) will be applied each day a written assessment is not submitted, up to the 7th day (including weekends). After the 7th day, a grade of '0' will be awarded even if the assessment is submitted. Submission time for all written assessments is set at 11.55pm. A 1-hour grace period is provided to students who experience a technical concern.

For example:

Number of days (hours) late	Total Possible Marks	Deduction	Raw mark	Final mark
1 day (1-24 hours)	100	5	75	70
2 days (24-48 hours)	100	10	75	65
3 days (48-72 hours)	100	15	75	60
7 days (144-168 hours)	100	35	75	40
>7 days (>168 hours)	100	—	75	0

Late submission of time sensitive tasks, such as timetabled tests/exams, scheduled performance assessments/presentations, scheduled practical assessments/labs, will be addressed by the unit convenor in a Special consideration application.

Special Consideration

If you are unable to complete an assessment task on or by the specified date due to circumstances that are unexpected, unavoidable, significantly disruptive and beyond your

control, you may apply for special consideration in accordance with the [Special Consideration Policy](#). Applications for special consideration must be supported by appropriate evidence and submitted via ask.mq.edu.au.

Assessment Tasks

Name	Weighting	Hurdle	Due
Formative Online Quiz	0%	No	Week 3
Anatomy Test	20%	No	Week 7
Hypothesis Testing and Reporting	35%	No	Week 8 and 12
Final Exam	45%	No	End of session examination period

Formative Online Quiz

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 2 hours

Due: **Week 3**

Weighting: **0%**

Assessment on content delivered in the initial weeks of session. Quiz will be online using multiple choice style questions. This assessment task provides formative feedback prior to census.

On successful completion you will be able to:

- Describe the 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.

Anatomy Test

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 10 hours

Due: **Week 7**

Weighting: **20%**

Test assessing content covered in the anatomy and surface anatomy practical peer group sessions.

On successful completion you will be able to:

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

Hypothesis Testing and Reporting

Assessment Type ¹: Professional writing

Indicative Time on Task ²: 15 hours

Due: **Week 8 and 12**

Weighting: **35%**

A biomedical investigation reported in conventional scientific format. Introduction and discussion sections to be completed individually around experimental work.

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 the structure and function of the cardiovascular and respiratory system to disease processes.
- Use biomedical literature and the method of scientific enquiry to outline the cardiovascular and respiratory response to physical challenges.
- Effectively participate in scheduled activities and in peer teams, seeking and reflecting on feedback to improve individual and group performance.

Final Exam

Assessment Type ¹: Examination

Indicative Time on Task ²: 20 hours

Due: **End of session examination period**

Weighting: **45%**

Formal exam using a combination of question types assessing content delivered across the session. This task is completed under examination conditions during the University examination period.

On successful completion you will be able to:

- Describe the 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 the structure and function of the cardiovascular and respiratory system to disease processes.
- Use biomedical literature and the method of scientific enquiry to outline the cardiovascular and respiratory response to physical challenges.

¹ If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the [Writing Centre](#) for academic skills support.

² Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

Delivery and Resources

As a student enrolled in this unit, you will engage in a range of face-to-face and online learning activities, including lectures, practical classes, online modules, and readings. Details can be found on the iLearn site for this unit.

Recommended Readings

The main text for this unit is the [Guyton and Hall Textbook of Medical Physiology](#), which is available online through the Macquarie University Library. Further readings are detailed on the iLearn site for this unit.

Technology Used

Active participation in the learning activities throughout the unit will 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.

Unit Schedule

Block 1: Respiratory system, physiology and anatomy (Weeks 1 to 3)

- Introduction of concepts
- Respiratory system
- Respiratory regulation

Block 2: Cardiovascular system, physiology and anatomy (Weeks 4 to 7)

- The heart
- Circulatory system
- Cardiovascular regulation
- The microcirculation and lymph flow

Block 3: Cardiovascular and respiratory integration (Weeks 8 and 9)

- Cardiovascular and respiratory physiology in exercise
- Cardiovascular and respiratory homeostasis and thermal regulation

Block 4: Cardiovascular and respiratory system in disease (Weeks 10 to 12)

- Aboriginal cardiovascular and respiratory health
- Diseases of the heart: Conductive diseases; Heart failure
- Diseases of the respiratory system: Chronic obstructive pulmonary disease
- Disease of the vascular system: Isolated systolic hypertension

Block 5: Review (Week 13 and exam period)

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://policies.s.mq.edu.au\)](https://policies.s.mq.edu.au). 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](#)
- [Assessment Procedure](#)
- [Complaints Resolution Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#)

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

To find other policies relating to Teaching and Learning, visit [Policy Central \(https://policies.mq.edu.au\)](https://policies.mq.edu.au)

[du.au](#)) and use the [search tool](#).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/admin/other-resources/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

Academic Integrity

At Macquarie, we believe [academic integrity](#) – honesty, respect, trust, responsibility, fairness and courage – is at the core of learning, teaching and research. We recognise that meeting the expectations required to complete your assessments can be challenging. So, we offer you a range of resources and services to help you reach your potential, including free [online writing and maths support](#), [academic skills development](#) and [wellbeing consultations](#).

Student Support

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

The Writing Centre

[The Writing Centre](#) provides resources to develop your English language proficiency, academic writing, and communication skills.

- [Workshops](#)
- [Chat with a WriteWISE peer writing leader](#)
- [Access StudyWISE](#)
- [Upload an assignment to Studiosity](#)
- [Complete the Academic Integrity Module](#)

The Library provides online and face to face support to help you find and use relevant information resources.

- [Subject and Research Guides](#)
- [Ask a Librarian](#)

Student Services and Support

Macquarie University offers a range of [Student Support Services](#) including:

- [IT Support](#)

- [Accessibility and disability support](#) with study
- Mental health [support](#)
- [Safety support](#) to respond to bullying, harassment, sexual harassment and sexual assault
- [Social support including information about finances, tenancy and legal issues](#)
- [Student Advocacy](#) provides independent advice on MQ policies, procedures, and processes

Student Enquiries

Got a question? Ask us via [AskMQ](#), or contact [Service Connect](#).

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.

Inclusion and diversity

Social inclusion at Macquarie University is about giving everyone who has the potential to benefit from higher education the opportunity to study at university, participate in campus life and flourish in their chosen field. The University has made significant moves to promote an equitable, diverse and exciting campus community for the benefit of staff and students. It is your responsibility to contribute towards the development of an inclusive culture and practice in the areas of learning and teaching, research, and service orientation and delivery. As a member of the Macquarie University community, you must not discriminate against or harass others based on their sex, gender, race, marital status, carers' responsibilities, disability, sexual orientation, age, political conviction or religious belief. All staff and students are expected to display appropriate behaviour that is conducive to a healthy learning environment for everyone.

Professionalism

In the Faculty of Medicine, Health and Human 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 clinical, practical, laboratory, work-integrated learning (e.g., PACE placements), and team-based learning activities. Some learning activities are recorded (e.g., face-to-face lectures), however you are encouraged to avoid relying upon such material as they do not recreate the whole learning experience and technical issues can and do occur. As an adult learner, we respect your decision to choose how you engage with your learning, but we would remind you that the learning opportunities we create for you have been done so to enable your success, and that by not engaging you may impact your ability to successfully complete this unit. We equally expect that you show respect for the academic staff who have worked hard to

develop meaningful activities and prioritise your learning by communicating with them in advance if you are unable to attend a small group interactive session.

Another dimension of professionalism is having respect for your peers. It is the right of every student to learn in an environment that is free of disruption and distraction. Please arrive to all learning activities on time, and if you are unavoidably detained, please join the activity as quietly as possible to minimise disruption. Phones and other electronic devices that produce noise and other distractions must be turned off prior to entering class. Where your own device (e.g., laptop) is being used for class-related activities, you are asked to close down all other applications to avoid distraction to you and others. Please treat your fellow students with the utmost respect. If you are uncomfortable participating in any specific activity, please let the relevant academic know.

Professionalism in anatomy education

The study of human anatomy at Macquarie University is governed by the Anatomy Act (1977) and students are admitted to the anatomy laboratories on the proviso that they comply with all relevant legislation. It is important that this includes respect and professionalism in your dealings with human material and your interactions with your colleagues and members of the public.

Donating one's body to science is an act of selflessness and generosity that contributes greatly to advancing medical research and education. It behoves us all, therefore, to treat the donations with the utmost care, respect, and professionalism. Failure to do so not only can result in serious reputation consequences for you and the University, but can result in suspension, expulsion and possible imprisonment.

Please behave professionally at all times and treat our valuable human anatomy teaching resources with the utmost care and respect.

Unit information based on version 2024.02 of the [Handbook](#)