



BIOL2220

Systems Physiology

Session 2, In person-scheduled-weekday, North Ryde 2026

School of Natural Sciences

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General Information

Unit convenor and teaching staff

Emily Don

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Credit points

10

Prerequisites

50cp from 1000 level units, including 30cp from ANAT1001 or MHHS1002 or ANAT1002 or BIOL1110 or BIOL1210 or BIOL2230 or CHEM1001

Corequisites

Co-badged status

Unit description

This unit is for anyone interested in human physiology, and how humans maintain homeostasis whilst interacting with the outside world. The human body is capable of surviving in a dazzling variety of changing environmental conditions. It can live in jungles, mountains, crowded cities, or deserts. It can withstand the heat of a summer in Far North Queensland or the cold of a Tasmanian winter. In this unit, you will learn how systems physiology allows the human body to achieve homeostasis (a normal internal environment) in a constantly changing world. We will investigate the physiology of the cardiovascular, respiratory, endocrine, immune, gastrointestinal, muscular, skeletal, nervous, reproductive and renal systems. Practical classes involve measuring physiological parameters such as blood pressure and electrical conduction through the heart in humans as well as exploring how digestive enzymes work. The unit content is designed that students with a background in human biology will not be disadvantaged, however students with a background in anatomy, medical chemistry and biomolecular science are encouraged to enroll.

Learning in this unit enhances student understanding of global challenges identified by the United Nations Sustainable Development Goals ([UNSDGs](#)) Good Health and Well Being; Quality Education; Climate Action

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: Explain how the physiological systems of the human body contribute to the maintenance of homeostasis

ULO2: Relate specific structural features of organs to essential system functions

ULO3: Interpret physiological processes using equations of physical, chemical, and electrical properties

ULO4: Analyse data, and synthesise and communicate the implications of experimental results

ULO5: Perform experiments safely with human subjects and accurately collect, store and present data

ULO6: Identify situations in which organ systems interact to produce a co-ordinated response

General Assessment Information

To pass this unit you must:

- Achieve a total mark equal to or greater than 50%

Late Assessment Submission Penalty

Unless a Special Consideration request has been submitted and approved, a 5% penalty (of the total possible mark of the task) will be applied for each day a written report or presentation assessment is not submitted, up until the 7th day (including weekends). After the 7th day, a grade of '0' will be awarded even if the assessment is submitted. The submission time for all uploaded assessments is **11:55 pm**. A 1-hour grace period will be provided to students who experience a technical concern. For any late submission of time-sensitive tasks, such as scheduled tests/exams, performance assessments/presentations, and/or scheduled practical assessments/labs, please apply for [Special Consideration](#).

Assessments where Late Submissions will be accepted

Assessment 1: Mid-session problem set – YES, Standard Late Penalty applies

Assessments 2 and 3: Lab Book Portfolio and Final Exam - NO, unless Special Consideration is Granted

Special Consideration

The [Special Consideration Policy](#) aims to support students who have been impacted by short-term circumstances or events that are serious, unavoidable and significantly disruptive, and which may affect their performance in assessment. If you experience circumstances or events that affect your ability to complete the assessments in this unit on time, please inform the convenor and submit a Special Consideration request through [Special Consideration](#).

Assessment Tasks

Name	Weighting	Hurdle	Due	Groupwork/Individual	Short Extension	AI Approach
Lab Book Portfolio	40%	No	30/10/2026	Individual	Yes	Open
Mid-session problem set	25%	No	20/09/2026	Individual	Yes	Open
Final Exam	35%	No	Exam Period	Individual	No	Observed

Lab Book Portfolio

Assessment Type ¹: Professional task

Indicative Time on Task ²: 33 hours

Due: **30/10/2026**

Weighting: **40%**

Groupwork/Individual: Individual

Short extension ³: Yes

AI Approach: Open

The laboratory content will be assessed by presentation of a completed lab book with oral discussion of the experiments.

On successful completion you will be able to:

- Explain how the physiological systems of the human body contribute to the maintenance of homeostasis
- Interpret physiological processes using equations of physical, chemical, and electrical properties
- Analyse data, and synthesise and communicate the implications of experimental results
- Perform experiments safely with human subjects and accurately collect, store and present data
- Identify situations in which organ systems interact to produce a co-ordinated response

Mid-session problem set

Assessment Type ¹: Problem-based task

Indicative Time on Task ²: 15 hours

Due: **20/09/2026**

Weighting: **25%**

Groupwork/Individual: Individual

Short extension ³: Yes

AI Approach: Open

You will be given a problem set to attempt at home. You are encouraged to complete the problem set under closed book conditions, and then correct your mistakes under open book conditions.

On successful completion you will be able to:

- Explain how the physiological systems of the human body contribute to the maintenance of homeostasis
- Relate specific structural features of organs to essential system functions
- Interpret physiological processes using equations of physical, chemical, and electrical properties
- Identify situations in which organ systems interact to produce a co-ordinated response

Final Exam

Assessment Type ¹: Examination

Indicative Time on Task ²: 25 hours

Due: **Exam Period**

Weighting: **35%**

Groupwork/Individual: Individual

Short extension ³: No

AI Approach: Observed

You will undertake a final examination during the formal examination period.

On successful completion you will be able to:

- Explain how the physiological systems of the human body contribute to the maintenance of homeostasis
- Relate specific structural features of organs to essential system functions
- Interpret physiological processes using equations of physical, chemical, and electrical properties
- Analyse data, and synthesise and communicate the implications of experimental results
- Identify situations in which organ systems interact to produce a co-ordinated response

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
- Academic Success 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.

³ An automatic short extension is available for some assessments. Apply through the [Service Connect Portal](#).

Delivery and Resources

Week 1 Classes

Will be online only. Pre-recorded lectures will be posted during the week. You will need these for the classes in week 2.

Methods of Communication

We will communicate with you via your university email and through announcements on iLearn. Queries to convenors can either be placed on the iLearn discussion board or sent to the unit convenor via the contact email on iLearn.

Attendance

We strongly encourage all students to actively participate in all learning activities. Regular engagement is crucial for your success in this unit, as these activities provide opportunities to deepen your understanding of the material, collaborate with peers, and receive valuable feedback from instructors, to assist in completing the unit assessments. Your active participation not only enhances your own learning experience but also contributes to a vibrant and dynamic learning environment for everyone.

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](#) (<https://policies.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>). 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>) 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 connect.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/>

Academic Success

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

- [Ask a Study Coach](#)
- [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 the [Service Connect Portal](#), or contact [Service Connect](#).

IT Help

For help with University computer systems and technology, visit <https://students.mq.edu.au/support/technology/service-desk>.

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.

Changes from Previous Offering

We value student feedback to be able to continually improve the way we offer our units. As such we encourage students to provide constructive feedback via student surveys, to the teaching staff directly, or via the FSE Student Experience & Feedback link in the iLearn page.

Student feedback from the previous offering of this unit was very positive overall, with students pleased with the clarity on iLearn and the level of support from teaching staff. However we will continue to strive to improve the level of support and the level of student engagement.

To enable students more time to focus on learning, understanding and reflecting on the content of our unit we have revised the assessment structure as follows. There are now only three assessments: a problem set assessment, a lab book portfolio and a final exam. Although no marks are associated with attendance, all activities provide you with key content designed to help you understand content and complete the assessments.

Unit information based on version 2026.04 of the [Handbook](#)