



BIOL3210

Advanced Human Physiology

Session 1, In person-scheduled-infrequent, North Ryde 2025

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

BIOL2220 and (BIOL2230 or MEDI2300)

Corequisites

Co-badged status

Unit description

This unit explores advanced human physiology and how the body maintains homeostasis while responding to external stressors. Building on Systems Physiology, we'll examine how different physiological systems interact to regulate blood pressure during exercise, and how the renal and respiratory systems balance the body's acid/base levels, with case studies highlighting when these processes fail. We'll also study immunology, focusing on autoimmune responses and related health issues, and delve into the endocrine and neuroendocrine systems to understand energy metabolism and hormone imbalances in disease. Practical classes will involve lab experiments to measure physiological parameters like blood pressure, urine pH, and immune system function, with students working in teams as both investigators and subjects, following health and safety protocols

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

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 cardiovascular, renal, and respiratory systems contribute to homeostasis

ULO2: Examine how the components of the neural and endocrine systems maintain

energy balance in the human body in health and disease

ULO3: Investigate the role of the immune system in autoimmune disease and in common medical tests

ULO4: Analyse experimental data relating to physiological responses and interpret physiological significance

ULO5: Synthesise information from the scientific literature for presentation in written and oral formats, individually and in groups

ULO6: Evaluate and synthesize information on contemporary topics in human physiology

General Assessment Information

Attendance and Participation

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.

Requirements to Pass this Unit

To pass this unit you must:

- Achieve a total mark equal to or greater than 50%, and
- Achieve at least 40% in the final exam

Submission of all assignments and participation in all tests and practical classes/workshops is highly recommended since it will be difficult to pass the unit without obtaining marks from these activities.

Hurdle Assessments

Formal Exam (50%): In order to ensure academic integrity and test if the unit learning outcomes have been achieved, students must sit an invigilated exam and demonstrate sufficient knowledge of the unit content. Therefore, a minimum mark of 40% on the formal exam is required to pass the unit. If this is not obtained, students will be given a second chance to sit a supplemental exam.

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

- Lab book viva -YES, Standard Late Penalty applies
- Case study multiple mini interviews and Formal 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.

Assessment Tasks

Name	Weighting	Hurdle	Due
Case study viva	20%	No	13/04/2025
Lab book viva	30%	No	01/06/2025
Formal exam	50%	Yes	Exam Period

Case study viva

Assessment Type ¹: Case study/analysis

Indicative Time on Task ²: 20 hours

Due: **13/04/2025**

Weighting: **20%**

Students will work as a team to orally discuss their physiological understanding of medical case studies. Each student's contribution to the discussion will be graded individually.

On successful completion you will be able to:

- Explain how the cardiovascular, renal, and respiratory systems contribute to homeostasis
- Examine how the components of the neural and endocrine systems maintain energy balance in the human body in health and disease

- Investigate the role of the immune system in autoimmune disease and in common medical tests
- Synthesise information from the scientific literature for presentation in written and oral formats, individually and in groups
- Evaluate and synthesize information on contemporary topics in human physiology

Lab book viva

Assessment Type ¹: Lab book

Indicative Time on Task ²: 30 hours

Due: **01/06/2025**

Weighting: **30%**

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 cardiovascular, renal, and respiratory systems contribute to homeostasis
- Examine how the components of the neural and endocrine systems maintain energy balance in the human body in health and disease
- Investigate the role of the immune system in autoimmune disease and in common medical tests
- Analyse experimental data relating to physiological responses and interpret physiological significance

Formal exam

Assessment Type ¹: Examination

Indicative Time on Task ²: 50 hours

Due: **Exam Period**

Weighting: **50%**

This is a hurdle assessment task (see [assessment policy](#) for more information on hurdle assessment tasks)

An invigilated exam will be held during the final exam period. All the lecture, workshop and practical material is examinable. A non-programmable scientific calculator will be required in the exam but dictionaries are not allowed.

On successful completion you will be able to:

- Explain how the cardiovascular, renal, and respiratory systems contribute to homeostasis
 - Examine how the components of the neural and endocrine systems maintain energy balance in the human body in health and disease
 - Investigate the role of the immune system in autoimmune disease and in common medical tests
 - Analyse experimental data relating to physiological responses and interpret physiological significance
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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

Week 1 Classes

All lectures will be pre-recorded and for the best learning experience, please watch these before attending class. We request that student please attend the Week 6 and 11 practical and workshop classes where you will meet the teaching staff and your peers, learn about the unit and conduct experiments.

Methods of Communication

- We will communicate with you via your university email or through announcements on iLearn. General queries to convenors can be placed on the iLearn discussion board or private queries can be sent directly sent to the unit convenor via the unit contact email on iLearn.

COVID Information For the latest information on the University's response to COVID-19, please refer to the Coronavirus infection page on the Macquarie website: <https://www.mq.edu.au/about/coronavirus-faqs>. Remember to check this page regularly in case the information and requirements change during semester. If there are any changes to this unit in relation to COVID, these will be communicated via iLearn.

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://policies.mq.edu.au\)](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 \(https://students.mq.edu.au/support/study/policies\)](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) 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/>

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 the [Service Connect Portal](#), 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.

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 around assessment requirements and the level of support from teaching staff. As requested, we have moved the case study based classes into more comfortable workshop classes and will conduct the oral assessments face-to-face.

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 case study viva, a lab book viva and 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 2025.05 of the [Handbook](#)