



BIOL3210

Advanced Human Physiology

Session 1, In person-scheduled-infrequent, North Ryde 2024

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 or BIOL247) and ((BIOL2230 or BIOL257) or (MEDI2300 or MEDI204) or (admission to BHumanSc))] and 20cp at 2000 level including BIOL2220 or BIOL247

Corequisites

Co-badged status

Unit description

This unit is for anyone interested in advanced human physiology, and how humans maintain homeostasis whilst interacting with the outside world and its stressors. Building on knowledge gained in Systems Physiology, we will first explore how the various physiological systems interact to control blood pressure during exercise. We will then investigate how the renal and respiratory systems work together to regulate the acid/base balance of the body and discuss case studies of when this goes wrong. We will continue with our study of immunology to understand health problems associated with autoimmune responses. Finally, we will expand on knowledge of the endocrine and neuroendocrine systems to take an in-depth look into the regulation of energy metabolism and use case studies to understand the abnormal secretion of hormones in disease. Practical classes will make use of laboratory experiments to measure physiological parameters such as blood pressure during exercise, acid and base levels in the urine, and how our knowledge of the immune system can be harnessed to develop medical tests. In these classes students will work in teams to act both as investigators and experimental subjects adhering to work health and safety requirements.

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

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

- Conversation Piece – YES, Standard Late Penalty applies

- Case study multiple mini interviews, Quizzes on Laboratory content and outcomes 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 through ask.mq.edu.au.

Assessment Tasks

Name	Weighting	Hurdle	Due
Quizzes on Laboratory content and outcomes	10%	No	Mid-Session Break & Week 13
Case study multiple mini interviews	20%	No	Mid-Session Break & Week 13
Conversation Piece	20%	No	Week 9 & 11
Formal exam	50%	Yes	Final Exam Period

Quizzes on Laboratory content and outcomes

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 5 hours

Due: **Mid-Session Break & Week 13**

Weighting: **10%**

The laboratory content will be assessed by submission of a quiz either during, or shortly after the practical session. The quizzes will be administered through iLearn and will be partly multiple choice questions based on data analysis of experiments.

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- 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

Case study multiple mini interviews

Assessment Type ¹: Case study/analysis

Indicative Time on Task ²: 20 hours

Due: **Mid-Session Break & Week 13**

Weighting: **20%**

Students will progress through multiple mini interviews to orally present their physiological understanding of medical case studies

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- Evaluate and synthesize information on contemporary topics in human physiology

Conversation Piece

Assessment Type ¹: Professional writing

Indicative Time on Task ²: 30 hours

Due: **Week 9 & 11**

Weighting: **20%**

Students will write a piece on the physiology and pathophysiology of a human disease or condition in the style of "The Conversation" on a topic chosen from the list on the iLearn site. The report must be written in your own words. The main criterion for marking will be the physiological content but writing style will also be considered. The rubric used to mark the report is on the iLearn site.

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- Synthesise information from the scientific literature for presentation in written and oral formats, individually and in groups
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Formal exam

Assessment Type ¹: Examination

Indicative Time on Task ²: 45 hours

Due: **Final 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 and practical material is examinable. A non-programmable scientific calculator will be required in the exam but dictionaries are not allowed.

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- 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

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

We request that student please attend the infrequent weekend practicals and workshops where you will meet the teaching staff and your peers, learn about the unit and attempt experiments and case study problems. All lectures will be pre-recorded and for the best learning experience, try to watch these before attending class.

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 to the Unit Convenor through the iLearn Private Message tool.

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 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.

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.

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