



BIOL3210

Advanced Human Physiology

Session 1, Infrequent attendance, North Ryde 2020

Department of Biological Sciences

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General Information

Unit convenor and teaching staff

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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 follows on from BIOL2230 and BIOL2220. We will investigate the interaction of the renal and respiratory systems in the control of body pH. The next topic is the control of blood pressure leading to a discussion of hypertension and exercise. We continue with endocrinology discussing signal transduction and messenger pathways, and the role of hormones in the regulation of plasma potassium, calcium and glucose concentrations. A discussion of neuroendocrine systems and function of thyroid, sex, growth, mineralocorticoid and glucocorticoid hormones leads into a discussion of stress and the stress hormones. As obesity is currently a major threat to human health we will consider energy balance and the neurological basis for homeostatic and hedonic control of appetite before investigating other factors involved in weight control including genetics, foetal programming, protein leverage and the gut microbiota. The final two lectures will be on the neurobiology of the reward systems involved in hedonic eating and drug addiction. Practical classes make use of computer-assisted learning, as well as laboratory experiments. We will measure physiological parameters such as blood pressure during exercise, acid and base in the urine and stress hormones in the saliva. In these classes students will act both as investigators and experimental subjects.

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: Identify the components of the neural and endocrine systems that maintain energy balance in the human body

ULO3: Perform measurements of physiological responses safely in human subjects

ULO4: Analyse experimental data and interpret physiological significance

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

ULO6: Critically evaluate information and form logical arguments supported by experimental evidence

Assessment Tasks

Coronavirus (COVID-19) Update

Assessment details are no longer provided here as a result of changes due to the Coronavirus (COVID-19) pandemic.

Students should consult [iLearn](#) for revised unit information.

[Find out more about the Coronavirus \(COVID-19\) and potential impacts on staff and students](#)

Delivery and Resources

Coronavirus (COVID-19) Update

Any references to on-campus delivery below may no longer be relevant due to COVID-19.

Please check here for updated delivery information: https://ask.mq.edu.au/account/pub/display/unit_status

Timetable

There will be two lectures each week and these will be on Monday at 12 pm in 23 Wallys Walk P.G.Price Theatre and Tuesday 1 pm in 14 Sir Christopher Ondaatje Ave-Mason Theatre. All lectures will be recorded and available on iLearn.

Each week internal students are expected attend one practical class on either Tuesday from 2 pm to 5 pm or Wednesday from 10 am until 1 pm or Wednesday from 2 pm to 5 pm. All practical classes will be in 4 Wallys Walk Science labs (102, and 105).

Practical sessions for external students will be held on Saturday 14th and Sunday 15th March and on Thursday 23rd and Friday 24th of April in the 4 Wallys WLK Science lab 110. External students need to attend all four days of the on-campus sessions.

Unit material and Textbooks

The textbook for this unit is “Principals of Human Physiology” 6th edition by Cindy L Stanfield, published by Pearson. You can subscribe to the new digital version (6th addition) at

<http://www.pearson.com.au/9781292156491> and you do not need MasteringA&P.

However, much of the material covered in BIOL3210 is not available in text books. When this is the case, I have included relevant references in the lecture graphics.

iLearn

Your iLearn site will contain the unit outline, lecture graphics, lecture notes, practical manual, a link to the Active Learning Platform for audio visual recordings of lectures, announcements and discussion areas. Later, marks for in semester assessments tasks will be available in Grade Book. Please check this site and your student email regularly.

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.*)

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 help you improve your marks and take control of your study.

- [Getting help with your assignment](#)
- [Workshops](#)
- [StudyWise](#)
- [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

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.

Changes since First Published

Date	Description
13/02/2020	added delivery and resources