



BIOX1210

Human Biology

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

School of Natural Sciences

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Disclaimer

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General Information

Unit convenor and teaching staff

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Credit points

10

Prerequisites

Corequisites

Co-badged status

BIOL1210

Unit description

This unit is for anyone interested in humans, and how humans interact with the rest of the living world. BIOL1210 will give you an introductory overview of several fundamental topics essential for understanding the structure, function, and processes within the human body. The subjects covered in the unit include basic introductions to anatomy and physiology, cellular metabolism, reproduction, genetics, disease, and human evolution. To understand issues such as genetic engineering, cloning, assisted reproductive technologies, antibiotic resistance or the emergence of new human diseases requires a familiarity with modern biological knowledge. We aim to equip you with this knowledge and help to unlock a journey of self-discovery about incredible mysteries within your own body. The unit content is dealt with in such a way that students without prior studies in biology will not be at a disadvantage, however biology students are also encouraged to take this unit. All queries should be directed to Open Universities Australia.

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: Demonstrate an understanding and working knowledge of key biological terms

ULO2: Explain physiological processes in the human body starting at the genetic level

and working through the biochemistry, cell and tissue functions to a physical outcome

ULO3: Outline the complex interactions between organ systems that result in homeostasis

ULO4: Apply biological concepts to a range of contemporary issues

ULO5: Find scientific articles and critically evaluate the design and conclusions of biological experiments

ULO6: Summarize key findings related to complex biological topics

General Assessment Information

Unit Completion Requirements

Students must receive a mark of at least 50% to pass this subject. 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.

Assessment #1 Reflective Writing Task

This assignment will be supported by Workshop #1. This task is worth 15% of your total unit grade. The assignment is due on Friday at 11:55pm of Week 3.

Assessment #2 Annotated Bibliography Task

This task is worth 15% of your unit grade. The assignment is due on Friday at 11:55pm of Week 8.

Practical Class Participation and Quizzes

This task is worth 30% of your unit grade. Every practical lab class and workshop will consist of a graded pre-class quiz and submission of group or individual work completed on the day. The pre-class quizzes will be multiple choice in format and can only be completed *in person on the day*. Each quiz will be worth 3.75% of your overall unit grade.

Assignment Submission

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.

All assignments will be submitted as electronic copies via the BIOL1210 iLearn page. There will be a Turnitin link for each assignment, in the appropriate week. Turnitin will check your assignment for plagiarism.

Late Assessment Submission

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. 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](#).

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
Final exam	40%	No	Final Exam Period
Reference List	15%	No	Week 8
Practical class participation and quizzes	30%	No	Week 2 Mid Semester Break
Writing Task	15%	No	Week 3

Final exam

Assessment Type ¹: Examination

Indicative Time on Task ²: 50 hours

Due: **Final Exam Period**

Weighting: **40%**

A final exam will be held during the Formal Examination period at the end of semester. This may consist of multiple choice and short answer questions

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- Apply biological concepts to a range of contemporary issues
- Summarize key findings related to complex biological topics

Reference List

Assessment Type ¹: Annotated bibliography

Indicative Time on Task ²: 20 hours

Due: **Week 8**

Weighting: **15%**

Summary of papers and correctly formatted reference list relevant to current issues in human biology.

On successful completion you will be able to:

- Demonstrate an understanding and working knowledge of key biological terms
- Apply biological concepts to a range of contemporary issues
- Find scientific articles and critically evaluate the design and conclusions of biological experiments
- Summarize key findings related to complex biological topics

Practical class participation and quizzes

Assessment Type ¹: Practice-based task

Indicative Time on Task ²: 20 hours

Due: **Week 2 Mid Semester Break**

Weighting: **30%**

Every practical class will consist of a graded pre-class quiz and submission of group or individual work completed on the day.

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Writing Task

Assessment Type ¹: Reflective Writing

Indicative Time on Task ²: 10 hours

Due: **Week 3**

Weighting: **15%**

A short writing task, consisting of a reflective statement on human biology related education and employment.

On successful completion you will be able to:

- Demonstrate an understanding and working knowledge of key biological terms
- Apply biological concepts to a range of contemporary issues

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

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.

Week 1 classes

There are no in person lectures to attend for this unit in any week. This unit will be presented as a series of 36 asynchronous online topics broken into digestible chunks of content. These topics will be presented as a combination of recorded short lectures 3-10 min each in length, interactive online activities, readings, notes, and videos to watch.

This unit has 8 total in person activities- 5 Workshops that are 1 hour each in length (5 hours total) and 3 Practical classes that are 2 hours each in length in person and 1 hour each of online pre-practical work (9 hours total).

ALL Workshops and Practical classes will be held at the end of Week 2 of the mid semester break (Saturday April 27 and Sunday April 28).

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.

Unit Schedule

Week 1: INTRODUCTION

Lecture 1: Introduction to Uni Systems, Resources and Expectations

Week 1: BIOCHEMICAL SYSTEMS

Lecture 2: Chemical Foundations

Lecture 3: Solutes and Solutions

Week 2: BIOCHEMICAL SYSTEMS

Lecture 4: The Basics of Biomolecules

Lecture 5: Biochemistry for Beginners

Lecture 6: Body Fluids and Electrolytes

Week 3: CELLS IN ACTION 1

Lecture 7: Cellular Foundations and Structures

Lecture 8: Cell to Cell Junctions and Signaling

Lecture 9: Cell Permeability and Homeostasis

Week 4: CELLS IN ACTION 2

Lecture 10: Cellular Metabolism and Respiration

Lecture 11: Organisation of Cells into Tissues

Lecture 12: Human Organ Systems

Week 5: BODY BITS 1

Lecture 13: Digestive System and Nutrition

Lecture 14: Urinary System and Excretion

Lecture 15: Cardiovascular System

Week 6: BODY BITS 2

Lecture 16: Respiratory System

Lecture 17: Muscles and Skeletons

Lecture 18: Skin and Immune Responses

Week 7: THE NERVOUS SYSTEM

Lecture 19: Basic Neuroanatomy

Lecture 20: Introduction to the Central and Peripheral Nervous Systems

Lecture 21: Introduction to Neurochemistry and Neuronal Communication

Week 8: HORMONES AND BEHAVIOURS

Lecture 22: The Endocrine System

Lecture 23: Hormones and Behaviours

Lecture 24: The Physiology of Love

Week 9: REPRODUCTION

Lecture 25: Transcription and Translation

Lecture 26: The Cell Cycle + Mitosis and Meiosis

Lecture 27: Reproduction, Birth Control and Sexually Transmitted Diseases

Week 10: INHERITANCE

Lecture 28: The Molecular Basis of Inheritance

Lecture 29: DNA, The Genetic Code and Phenotypes

Lecture 30: Chromosome Abnormalities and Genetic Diseases

Week 11: BIOTECHNOLOGY

Lecture 31: Gene Cloning and DNA Biotechnologies

Lecture 32: Genetically Modified Organisms

Lecture 33: Seeing Life Under the Microscope

Week 12: MICROORGANISMS AND HUMAN EVOLUTION

Lecture 34: Microorganisms/Antibiotic Resistance + New and Emerging Diseases

Lecture 35: The Human Microbiome

Lecture 36: Understanding Evolution and the Origin of Life

Week 13: FINAL WEEK

No lectures- Final Exam Review online, review content will be provided to you on 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

Biology is a very dynamic subject and new discoveries are being made all the time. The lecture content of BIOL1210 is updated every year to reflect these advances. The lectures will be presented to you this year in multimedia formats arranged as shorter digestible chunks instead of a single traditional 1hr lecture recording. Practical classes and workshops have been added to the unit in 2024 to provide more interaction and detailed discussion of some of the more challenging lecture topics based on student feedback from previous years.

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. The Unit style and content is modified, where appropriate, to reflect these suggestions.

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