BIOX1210

Human Biology

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

School of Natural Sciences

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## General Information

<table>
<thead>
<tr>
<th>Unit convenor and teaching staff</th>
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<tbody>
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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](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

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https://unitguides.mq.edu.au/unit_offerings/166479/unit_guide/print
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.](https://unitguides.mq.edu.au/unit_offerings/166479/unit_guide/print)
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

<table>
<thead>
<tr>
<th>Name</th>
<th>Weighting</th>
<th>Hurdle</th>
<th>Due</th>
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<tbody>
<tr>
<td>Final exam</td>
<td>40%</td>
<td>No</td>
<td>Final Exam Period</td>
</tr>
<tr>
<td>Reference List</td>
<td>15%</td>
<td>No</td>
<td>Week 8</td>
</tr>
<tr>
<td>Practical class participation and quizzes</td>
<td>30%</td>
<td>No</td>
<td>Week 2 Mid Semester Break</td>
</tr>
<tr>
<td>Writing Task</td>
<td>15%</td>
<td>No</td>
<td>Week 3</td>
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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.

On successful completion you will be able to:

- Demonstrate an understanding and working knowledge of key biological terms
- 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
- Outline the complex interactions between organ systems that result in homeostasis
- 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: Practice-based task
Indicative Time on Task: 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.

On successful completion you will be able to:

• Demonstrate an understanding and working knowledge of key biological terms
• 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
• Outline the complex interactions between organ systems that result in homeostasis
• Apply biological concepts to a range of contemporary issues
• Summarize key findings related to complex biological topics

Writing Task

Assessment Type: Reflective Writing
Indicative Time on Task: 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 activites- 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 Pracical 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](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). 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
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 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.
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/](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](http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/). 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](http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/).