# BIOL6210

## Life Processes

Session 2, Special circumstances, North Ryde 2021

*Archive (Pre-2022) - Department of Biological Sciences*

## Contents





**Session 2 Learning and Teaching Update**

The decision has been made to conduct study online for the remainder of Session 2 for all units WITHOUT mandatory on-campus learning activities. Exams for Session 2 will also be online where possible to do so.

This is due to the extension of the lockdown orders and to provide certainty around arrangements for the remainder of Session 2. We hope to return to campus beyond Session 2 as soon as it is safe and appropriate to do so.

Some classes/teaching activities cannot be moved online and must be taught on campus. You should already know if you are in one of these classes/teaching activities and your unit convenor will provide you with more information via iLearn. If you want to confirm, see the list of units with mandatory on-campus classes/teaching activities.

Visit the MQ COVID-19 information page for more detail.

# General Information

Unit convenor and teaching staff
Simon Griffith
simon.griffith@mq.edu.au

Credit points
10

Prerequisites
Admission to MBiotech or MConsBiol or GradDipConsBiol or GradCertConsBiol or MSc or MScInnovationBioConsMgmt

Corequisites

Co-badged status

Unit description
This unit will compare and contrast a range of physiological processes in microbes, plants and animals. It will highlight common features and their evolutionary origins, with particular reference to prokaryotic genes which have been conserved in multicellular organisms. Topics to be explored include metabolism (e.g. respiration, photosynthesis and transport), environmental responses (e.g. abiotic stress response, immune reactions, behaviour), morphogenesis (e.g. cell division, homeotic genes, embryogenesis and symmetry) and phenology (e.g. sexual maturation, fertilisation, life cycles). The unit will draw the common threads of evolution together in complex multicellular organisms, as well as contrasting those processes unique to each Kingdom, such as photosynthesis and locomotion.

## 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:** Describe the co-ordination of physiological processes in organisms, including transport systems and responses to stimuli

**ULO2:** Apply detailed knowledge to explain the processes by which organisms gain energy, grow, and develop

**ULO3:** Compare and contrast physiological processes, and their evolution, in microbes, plants, and animals

**ULO4:** Demonstrate critical thinking and writing skills to appraise scientific literature on a major physiological theme

**ULO5:** Analyse and interpret complex experimental data and critically evaluate these data in the context of physiological phenomena

**ULO6:** Apply broad and coherent knowledge of physiology to applications in the fields of biotechnology and medicine

# Assessment Tasks

| Name | Weighting | Hurdle | Due |
|---|---|---|---|
| Practical quizzes | 20% | No | After Practical classes Week 2,3,4,5,6,8,9,10,11,12 |
| Final exam | 40% | Yes | Exam period |
| Written assessment | 20% | No | Week 12, Monday 25th October |
| Weekly quizzes | 20% | No | After lectures Week 1-13 |

## Practical quizzes

Assessment Type [1]: Quiz/Test
Indicative Time on Task [2]: 10 hours
Due: **After Practical classes Week 2,3,4,5,6,8,9,10,11,12**
Weighting: **20%**

Students complete a set of prac-specific questions embedded in each practical with answers registered in iLearn

On successful completion you will be able to:

- Describe the co-ordination of physiological processes in organisms, including transport systems and responses to stimuli
- Apply detailed knowledge to explain the processes by which organisms gain energy, grow, and develop
- Demonstrate critical thinking and writing skills to appraise scientific literature on a major physiological theme

## Final exam

Assessment Type [1]: Examination
Indicative Time on Task [2]: 20 hours
Due: **Exam period**
Weighting: **40%**
**This is a hurdle assessment task (see assessment policy for more information on hurdle assessment tasks)**

An analytical set of short-answer assembled in graded order of difficulty designed to test understanding rather than factual recall.

On successful completion you will be able to:

- Describe the co-ordination of physiological processes in organisms, including transport systems and responses to stimuli
- Apply detailed knowledge to explain the processes by which organisms gain energy, grow, and develop
- Compare and contrast physiological processes, and their evolution, in microbes, plants, and animals
- Analyse and interpret complex experimental data and critically evaluate these data in the context of physiological phenomena
- Apply broad and coherent knowledge of physiology to applications in the fields of biotechnology and medicine

## Written assessment

Assessment Type [1]: Report
Indicative Time on Task [2]: 15 hours
Due: **Week 12, Monday 25th October**
Weighting: **20%**

A deep critical appraisal of two recent publications on one of a set of topics chosen by the student

On successful completion you will be able to:

- Demonstrate critical thinking and writing skills to appraise scientific literature on a major

physiological theme
- Analyse and interpret complex experimental data and critically evaluate these data in the context of physiological phenomena
- Apply broad and coherent knowledge of physiology to applications in the fields of biotechnology and medicine

## Weekly quizzes

Assessment Type [1]: Quiz/Test
Indicative Time on Task [2]: 12 hours
Due: **After lectures Week 1-13**
Weighting: **20%**

Students complete a set of lecture-specific questions embedded in each lecture with answers registered in iLearn

On successful completion you will be able to:
- Describe the co-ordination of physiological processes in organisms, including transport systems and responses to stimuli
- Apply detailed knowledge to explain the processes by which organisms gain energy, grow, and develop
- Compare and contrast physiological processes, and their evolution, in microbes, plants, and animals

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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

All lectures for this course will be online in 2021, and posted through ilearn and echo.

All practicals will be live and require on campus attendance during two periods - 28-29th August and 13-15th September

# 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
- Grade Appeal Policy
- Complaint Management 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). 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

# 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.