BIOL2210
Life Processes
Session 2, In person-scheduled-weekday, North Ryde 2023
School of Natural Sciences

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General Information

Unit convenor and teaching staff
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Julian Schrader
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Credit points
10

Prerequisites
(40cp at 1000 level or above) including (BIOL1310 or BIOL114) or (BIOL1110 or BIOL115)

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 understand how organisms adapt to environmental change.

### General Assessment Information

#### Requirements to Pass this Unit

To pass this unit you must:

- Attempt the major written assessments, and
- Achieve a total mark equal to or greater than 50%, and
- Participate in, and achieve at least 50% in the final examination

#### Late Assessment Submission and Penalties

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

- Major Written Assignment – **YES**, Standard Late Penalty applies

### 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.
Written Assessments: If you experience circumstances or events that affect your ability to complete the written assessments in this unit on time, please inform the convenor and submit a Special Consideration request through ask.mq.edu.au.

Weekly practice-based tasks: To pass the unit you need to demonstrate ongoing development of skills and application of knowledge in 8 out of the 10 weekly practical classes. If you miss a weekly practical class due to a serious, unavoidable and significant disruption, contact your convenor ASAP as you may be able to attend another class that week. If it is not possible to attend another class, you should still contact your convenor for access to class material to review in your own time.

Note that a Special Consideration should only be applied for if you miss more than two of the weekly practical classes.

**Assessment Tasks**

<table>
<thead>
<tr>
<th>Name</th>
<th>Weighting</th>
<th>Hurdle</th>
<th>Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practical quizzes</td>
<td>20%</td>
<td>No</td>
<td>A week after each practical class</td>
</tr>
<tr>
<td>Written assessment</td>
<td>20%</td>
<td>No</td>
<td>06/10/2023</td>
</tr>
<tr>
<td>Final Exam</td>
<td>40%</td>
<td>No</td>
<td>During exam week</td>
</tr>
<tr>
<td>Weekly quizzes</td>
<td>20%</td>
<td>No</td>
<td>Weekly throughout session</td>
</tr>
</tbody>
</table>

**Practical quizzes**

Assessment Type: Quiz/Test  
Indicative Time on Task: 10 hours  
Due: A week after each practical class  
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

Written assessment

Assessment Type ¹: Report
Indicative Time on Task ²: 15 hours
Due: 06/10/2023
Weighting: 20%

A critical analysis 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 understand how organisms adapt to environmental change.

Final Exam

Assessment Type ¹: Examination
Indicative Time on Task ²: 20 hours
Due: During exam week
Weighting: 40%

An analytical set of questions 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 understand how organisms adapt to environmental change.

**Weekly quizzes**

Assessment Type 1: Quiz/Test

Indicative Time on Task 2: 12 hours

Due: Weekly throughout session

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.

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.

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**

In Week 1 the lectures will be posted on iLearn and will remain available throughout the session.
The first Practical class is in Week 2. Weekly quizzes commence in Week 2.

**Methods of Delivery**

We will communicate with you via your university email and through announcements on iLearn. Queries to convenors can be placed on the iLearn discussion board (private communication to convener).

**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.

**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](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
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 such, no change to the delivery of the unit is planned, however we will continue to strive to improve the level of support and the level of student engagement.