



BIOL3310

Invertebrate Biology and Behaviour

Session 2, Weekday attendance, North Ryde 2021

Archive (Pre-2022) - Department of Biological Sciences

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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

Ajay Narendra

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Contact via BIOL3310@mq.edu.au

Credit points

10

Prerequisites

130cp at 1000 level or above including (BIOL2510 or BIOL262) or BIOL208 or (BIOL2310 or BIOL228) or (BIOL2210 or BIOL229)

Corequisites

Co-badged status

Unit description

This unit explores the fascinating world of invertebrate animals. The unit starts by briefly outlining the diversity and key features of the major groups of invertebrate animals (excluding unicellular organisms), and using phylogenetic analysis to explore evolutionary relationships. Once this is established, we move away from a development and taxonomic focus to discuss major topics including: mating systems, communication, host-parasite relationships, predator-prey interactions, sociality, biological control, climate change, and conservation. These major topics draw on examples from research papers on various groups of invertebrates. This unit is suitable for students who are interested in whole animal biology or biological education, or for students who are interested in further research.

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: Competently use microscopy and imaging techniques to classify invertebrates into major taxonomic groups on the basis of morphological traits

ULO2: Identify morphological, behavioural, and physiological adaptations that allow invertebrates to survive in distinct habitats

ULO3: Assess how adaptations of invertebrates influence species and community

interactions, and ecosystem function

ULO4: Create hypotheses and design experiments to test those hypothesis by analysing appropriate data

ULO5: Critically evaluate scientific hypotheses by statistically analysing data, and accurately interpreting results of those analyses

ULO6: Effectively communicate biological research findings and concepts to diverse audiences including scientists and the general public

Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Microscopy and Imaging</u>	20%	No	10/10/2021
<u>Lecture Participation</u>	5%	No	Weekly
<u>Final exam</u>	40%	No	TBA
<u>Mid-Session Test</u>	10%	No	20/09/2021
<u>Scientific Journal Article</u>	20%	No	24/10/2021
<u>Early assessment quiz</u>	5%	No	22/08/2021

Microscopy and Imaging

Assessment Type ¹: Portfolio

Indicative Time on Task ²: 16 hours

Due: **10/10/2021**

Weighting: **20%**

Students will develop skills in imaging and measuring features in specimens from images acquired using light and scanning electron microscopes; build an image portfolio with appropriate descriptions of the features they image. Further details will be provided on iLearn and in the practical classes.

On successful completion you will be able to:

- Competently use microscopy and imaging techniques to classify invertebrates into major taxonomic groups on the basis of morphological traits
- Identify morphological, behavioural, and physiological adaptations that allow invertebrates to survive in distinct habitats

- Effectively communicate biological research findings and concepts to diverse audiences including scientists and the general public

Lecture Participation

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 6 hours

Due: **Weekly**

Weighting: **5%**

After each lecture an associated short quiz will be available on iLearn. Students must respond to all questions on their device (laptop, tablet or phone). Each quiz will remain open **only** for one week following each lecture. Participation for all students requires lectures to be listened to and quizzes answered within one week after the lecture.

On successful completion you will be able to:

- Identify morphological, behavioural, and physiological adaptations that allow invertebrates to survive in distinct habitats
- Assess how adaptations of invertebrates influence species and community interactions, and ecosystem function

Final exam

Assessment Type ¹: Examination

Indicative Time on Task ²: 30 hours

Due: **TBA**

Weighting: **40%**

A test on knowledge of course content (lectures, pracs and readings) up to and including week 13.

If you receive special consideration for the final exam, a supplementary exam will be scheduled in the interval between the regular exam period and the start of the next session. By making a special consideration application for the final exam you are declaring yourself available for a resit during the supplementary examination period and will not be eligible for a second special consideration approval based on pre-existing commitments. Please ensure you are familiar with the policy prior to submitting an application. Approved applicants will receive an individual notification one week prior to the exam with the exact date and time of their supplementary examination.

On successful completion you will be able to:

- Competently use microscopy and imaging techniques to classify invertebrates into major taxonomic groups on the basis of morphological traits
- Identify morphological, behavioural, and physiological adaptations that allow invertebrates to survive in distinct habitats
- Assess how adaptations of invertebrates influence species and community interactions, and ecosystem function
- Create hypotheses and design experiments to test those hypothesis by analysing appropriate data

Mid-Session Test

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 8 hours

Due: **20/09/2021**

Weighting: **10%**

A multiple choice answer test on knowledge of course content (both lectures and pracs) for the first half of semester.

On successful completion you will be able to:

- Competently use microscopy and imaging techniques to classify invertebrates into major taxonomic groups on the basis of morphological traits
- Identify morphological, behavioural, and physiological adaptations that allow invertebrates to survive in distinct habitats
- Assess how adaptations of invertebrates influence species and community interactions, and ecosystem function

Scientific Journal Article

Assessment Type ¹: Report

Indicative Time on Task ²: 16 hours

Due: **24/10/2021**

Weighting: **20%**

Students will complete a scientific research report, written in their own words. You will develop a hypothesis, design an experiment, analyse data, prepare figures and write a manuscript. The report will follow the format of a Current Biology paper - details of which will be provided in class and online in iLearn.

On successful completion you will be able to:

- Create hypotheses and design experiments to test those hypothesis by analysing appropriate data
- Critically evaluate scientific hypotheses by statistically analysing data, and accurately interpreting results of those analyses
- Effectively communicate biological research findings and concepts to diverse audiences including scientists and the general public

Early assessment quiz

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 6 hours

Due: **22/08/2021**

Weighting: **5%**

This is an early assessment quiz to help you know how you are doing early on in the unit. It will cover material in the first 3 weeks of semester.

On successful completion you will be able to:

- Identify morphological, behavioural, and physiological adaptations that allow invertebrates to survive in distinct habitats
- Assess how adaptations of invertebrates influence species and community interactions, and ecosystem function

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

Lectures will be delivered online: mix of live and pre-recorded lectures. Practicals will be on campus. It is not possible to complete this unit online.

Practicals will be on campus. Refer to iLearn for more details

10% of the mark allocated for the assignment will be deducted per day for any work that is submitted late.

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](#)
- [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 \(https://students.mq.edu.au/support/study/policies\)](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

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
29/07/2021	Added BIOL3310@mq.edu.au as contact point for unit, as requested by Sharyon O'Donnell.