



# BIOL1310

## Organisms to Ecosystems

Session 1, Special circumstances, North Ryde 2021

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

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#### **Disclaimer**

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#### **Notice**

As part of [Phase 3 of our return to campus plan](#), most units will now run tutorials, seminars and other small group activities on campus, and most will keep an online version available to those students unable to return or those who choose to continue their studies online.

To check the availability of face-to-face activities for your unit, please go to [timetable viewer](#). To check detailed information on unit assessments visit your unit's iLearn space or consult your unit convenor.

## General Information

Unit convenor and teaching staff

Co-convenor

Linda Beaumont

[biol1310@mq.edu.au](mailto:biol1310@mq.edu.au)

Co-convenor

Bruno Buzatto

[biol1310@mq.edu.au](mailto:biol1310@mq.edu.au)

First Year Teaching Co-ordinator

Kate Barry

[biol1310@mq.edu.au](mailto:biol1310@mq.edu.au)

Credit points

10

Prerequisites

Corequisites

Co-badged status

BIOX1310

Unit description

This unit introduces students to the essential concepts in current biology. BIOL1310 forms the first step for students pursuing a career in the biological sciences, and provides a basis for students in other disciplines who wish to maintain an interest in this dynamic field. The theme of this unit is evolution. The first part of the unit is concerned with the origin of life and discusses current theories on how life may have arisen on a previously lifeless planet. We discuss evolutionary theory in detail including some of the genetic principles that underlie evolution. In the second part we introduce the major groups of organisms examining their diversity and how they function. In the final part we discuss the ecological interactions between organisms from the small scale to global patterns. Throughout the unit, these core concepts are illustrated with examples from current research. BIOL1310 is designed as a companion unit to BIOL1110 in Session 2.

## 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:** Define evolution and describe its main mechanisms

**ULO2:** Define the the major evolutionary transitions of organisms on earth

**ULO3:** Differentiate the main groups of organisms and interpret their evolutionary relationships

**ULO4:** Contrast major ecological processes and describe biogeographical patterns

**ULO5:** Synthesise experimental results and information from the scientific literature to prepare a scientific report

**ULO6:** Demonstrate foundational learning skills including active engagement in the learning process

## General Assessment Information

### Mid-semester test

Note that the mid-semester exam will be held online on **Thursday, 1 April at 9 am**. This is in Week 6.

**Attendance at practicals is a hurdle requirement. That is, students must attend and participate in at least 80% of practicals in order to pass.**

### **Academic Honesty – please read, as this is very important**

Presenting the work of another person as one's own is a serious breach of the University's rules and carries significant penalties. The University's Academic Honesty Policy can be found at [http://www.mq.edu.au/policy/docs/academic\\_honesty/policy.html](http://www.mq.edu.au/policy/docs/academic_honesty/policy.html)

In this unit, we will be checking written work for plagiarism using TURNITIN. Penalties for plagiarism may include a zero mark for the assignment or in more extreme cases, failure of the unit. Plagiarism WILL be noted on your academic record. Full details of penalties can be found at [http://www.mq.edu.au/policy/docs/academic\\_honesty/schedule\\_penalties.html](http://www.mq.edu.au/policy/docs/academic_honesty/schedule_penalties.html)

### **Extensions, penalties and disruptions to studies**

Late assignments will attract a penalty of **10%** of the total marks allocated to the exercise per day. You may hand in your work after the due date and escape penalty only if you have an acceptable reason (usually a medical certificate). Discuss your problem with the Lecturer as early as possible before the due date, however note that all requests for extensions MUST be submitted using the online form: [ask.mq.edu.au](http://ask.mq.edu.au).

Information about the Disruptions to Studies policy and procedure is online at Policy Central: [http://www.mq.edu.au/policy/docs/disruption\\_studies/procedure.html](http://www.mq.edu.au/policy/docs/disruption_studies/procedure.html).

Information on managing your Disruptions to Studies: [http://students.mq.edu.au/student\\_admin/manage\\_your\\_study\\_program/disruption\\_to\\_studies/](http://students.mq.edu.au/student_admin/manage_your_study_program/disruption_to_studies/)

## Assessment Tasks

| Name                                  | Weighting | Hurdle | Due                           |
|---------------------------------------|-----------|--------|-------------------------------|
| <a href="#">Pre-practical Quizzes</a> | 10%       | No     | Weekly, 10 am each Thursday   |
| <a href="#">Lab book</a>              | 5%        | Yes    | Weekly in the practical class |
| <a href="#">Mid-semester test</a>     | 15%       | No     | Week 6, 1 April (9 am)        |
| <a href="#">Research Report</a>       | 30%       | No     | Week 9, 3 May (5 pm)          |
| <a href="#">Final Exam</a>            | 40%       | No     | Formal Exam Period            |

### Pre-practical Quizzes

Assessment Type <sup>1</sup>: Quiz/Test

Indicative Time on Task <sup>2</sup>: 12 hours

Due: **Weekly, 10 am each Thursday**

Weighting: **10%**

Weekly practical quizzes are required to be undertaken prior to the start of the practical class. The purpose of the quiz is to ensure that you are familiar with the activities of the practical and the biological concepts they cover.

On successful completion you will be able to:

- Define evolution and describe its main mechanisms
- Define the the major evolutionary transitions of organisms on earth
- Differentiate the main groups of organisms and interpret their evolutionary relationships
- Contrast major ecological processes and describe biogeographical patterns
- Demonstrate foundational learning skills including active engagement in the learning process

### Lab book

Assessment Type <sup>1</sup>: Participatory task

Indicative Time on Task <sup>2</sup>: 12 hours

Due: **Weekly in the practical class**

Weighting: **5%**

**This is a hurdle assessment task (see [assessment policy](#) for more information on hurdle**

## assessment tasks)

Attendance at, and participation in, weekly practical classes is compulsory to pass this unit. You are also expected to keep a lab book, detailing the aims, methods, results and conclusion of your study. Teaching staff will sign the lab book at the end of each practical.

Please contact the first year teaching co-ordinator as soon as possible if you have difficulty attending and participating in any classes. There may be alternatives available to make up the work. If there are circumstances that mean you miss a class, you can apply for special consideration.

On successful completion you will be able to:

- Synthesise experimental results and information from the scientific literature to prepare a scientific report
- Demonstrate foundational learning skills including active engagement in the learning process

## Mid-semester test

Assessment Type <sup>1</sup>: Examination

Indicative Time on Task <sup>2</sup>: 15 hours

Due: **Week 6, 1 April (9 am)**

Weighting: **15%**

The mid-semester test will cover lecture and practical material and will consist of multiple choice questions.

On successful completion you will be able to:

- Define evolution and describe its main mechanisms
- Define the the major evolutionary transitions of organisms on earth
- Differentiate the main groups of organisms and interpret their evolutionary relationships
- Contrast major ecological processes and describe biogeographical patterns

## Research Report

Assessment Type <sup>1</sup>: Report

Indicative Time on Task <sup>2</sup>: 20 hours

Due: **Week 9, 3 May (5 pm)**

Weighting: **30%**

In this assignment you will write a short research report on an experiment we have conducted in the practicals. The report will be in the style of a scientific paper, but somewhat shorter. It will contain a title, introduction, methods, results (with figures and/or tables), discussion and reference list. Prior to this, a practical will be dedicated to explaining all elements of the research report, and the marking rubric. Note that while you will work in a group to conduct the practical, all written work is expected to be your own.

On successful completion you will be able to:

- Define evolution and describe its main mechanisms
- Contrast major ecological processes and describe biogeographical patterns
- Synthesise experimental results and information from the scientific literature to prepare a scientific report

## Final Exam

Assessment Type <sup>1</sup>: Examination

Indicative Time on Task <sup>2</sup>: 8 hours

Due: **Formal Exam Period**

Weighting: **40%**

The final exam will be held during the Formal Examination Period, and may consist of a mixture of multiple choice and short-length answer. The exam will cover all Lecture and Practical material presented in the unit. The University will announce the examination date towards the end of semester. We will relay that date via an announcement in Lectures and via iLearn.

On successful completion you will be able to:

- Define evolution and describe its main mechanisms
- Define the the major evolutionary transitions of organisms on earth
- Differentiate the main groups of organisms and interpret their evolutionary relationships
- Contrast major ecological processes and describe biogeographical patterns
- Synthesise experimental results and information from the scientific literature to prepare a scientific report

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<sup>1</sup> 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.

<sup>2</sup> 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

### TO PASS THIS UNIT YOU MUST:

- Achieve a total mark of at least 50%

and

- Attend and participate in at least 80% of the practicals. This is a hurdle requirement.

### Lectures

This year, to be COVID-safe, lectures will be pre-recorded. There will be two hours of lectures a week, available in Echo360. You are expected to listen to them each week and, if possible, join for a 30 min zoom at **9 am each Monday**. During this zoom, we will have a Q&A session with lecturers and a guest speaker. **Note that the mid-semester test is online at 9 am Monday, 1 April. It will take ~1 hr and 10 mins. Please ensure that you are available.**

### Practicals

Practicals last for up to 2 hours and are (mostly) conducted on campus (see the timetable for times and locations). Note that you are expected to attend and participate in these weekly pracs, as they are a hurdle requirement of the unit. Failure to attend and complete at least 80% of the pracs will result in a fail grade.

**Internal students: all pracs are on campus.**

**Thursday 9-11 am, 1-3pm, Friday 9-11am, 1-3pm. These will be held across three labs at 6 Wallys Walk: a) 106 Science Lab, b) 110 Science Lab, c) 112 Science Lab.**

Should you miss a practical, you may be able to make it up in either another internal session or with the external students. The timetable for the external students is below.

**External and OUA students: pracs are held in block sessions over four days. Students can select to attend either Stream A or Stream B:**

**Stream A:** 27 March, 12-13 April, on-campus in 06WW106. The final day (8 May) will be online via Zoom.

**Stream B:** 28 March, 14-15 April, on-campus in 06WW106. The final day (8 May) will be online via Zoom.

## **iLearn**

The primary means of communication for this unit is via iLearn, which can be accessed by most web browsers from inside or outside the University. We expect you to use iLearn for:

- Doing the Weekly Quizzes
- Regularly checking subject announcements (at least twice per week)
- Discussing the unit and its content with staff and other students
- Downloading Lecture and Practical materials [https://unitguides.mq.edu.au/unit\\_offerings/122504/unit\\_guide/print\\_7](https://unitguides.mq.edu.au/unit_offerings/122504/unit_guide/print_7)
- Downloading reference materials
- Logging in to iLearn

### *Logging in to iLearn*

- The iLearn login page is: <https://ilearn.mq.edu.au/>
- Username: your student number
- Problems? Please contact Student IT Help
- Need extra help due to a disability/health condition? Please visit the Student Services Website : <https://students.mq.edu.au/support/wellbeing>

## **Missed Practicals**

If you know you will miss an online practical or if you have already missed one, please email the First Year Coordinator: [biol1310@mq.edu.au](mailto:biol1310@mq.edu.au). There may be alternative practical slots, including the external sessions, available for you to catch up.

## **Overall grades**

The University grading is: fail (F <50%), pass (P 50%-64%), credit (CR 65%-74%), distinction (D 75%-84%) and high distinction (HD 85%-100%).

## **Exam Special Consideration**

If you apply for Special Consideration for your final examination, you must make yourself available from mid July to the end of July, 2021. If you are not available at that time, there is no guarantee an additional examination time will be offered. Specific examination dates and times will be determined at a later date.

## **Assignment submission, Turnitin and Plagiarism**



This is a paperless unit so no paper submissions will be required. All written assignments will be submitted through iLearn via a Turnitin link.

Turnitin is an online program that detects plagiarised pieces of work by comparing your writing with other published work including:

- websites, books, journal articles
- other submitted assignments - from across the world in the current or past years

Plagiarism involves using the work of another person and presenting it as one's own. To avoid plagiarism,

1. prepare your work well ahead of the due date,
2. write in your own words (no copy paste),
3. cite the source of the information you are writing about.

Do not under any circumstances lend your work to another student. If that student plagiarises your work you too may be liable. The penalties imposed by the University for plagiarism are serious and may include expulsion from the University. A full outline of the Universities policy on plagiarism is found at [http://www.mq.edu.au/policy/docs/academic\\_honesty/policy.html](http://www.mq.edu.au/policy/docs/academic_honesty/policy.html).

### **The Academic Integrity Module for Students is an iLearn resource created by Learning Skills to help you learn about:**

- What 'academic integrity' is and why it's important,
- Acceptable and unacceptable academic behaviours at university,
- What plagiarism is and key strategies to avoid it.

Your responsibilities in relation to academic integrity and your rights under the Macquarie University Academic Honesty Policy. Once you enrol in the Academic Integrity Module for Students, you can access it from your iLearn course list under the category 'Skill Building and Help Resources'.

### **Extensions and penalties**

10% will be deducted for each day an assignment is late. If you are unable to submit the assignment by the due date, then an extension must be sought before the due date unless this is absolutely impossible. To support your extension you will be asked to submit a special consideration request via [ask.mq.edu.au](http://ask.mq.edu.au).

### **RESOURCES and SUPPORT**

How to find the answers

1. Please read the unit outline.

2. Consult iLearn - often the majority of questions have already been asked and answered.
3. If the answer to a question will benefit others, please post it on iLearn. We will answer it in time.
4. First Year Coordinator: questions about practical class allocations, mark queries and organising alternative times for assessments or extensions.
5. Scientific officer: only during practical classes and only technical questions.
6. Tutor: questions throughout practical sessions and specific queries about assignments.
7. Unit convenors: lecture content, withdrawal, personal issues.
8. Unexpected adjustments made during the course will announced via announcements so make sure you check iLearn regularly.

## **EMAIL PROTOCOL**

1. Always put the subject in the subject line i.e. BIOL1310 – if you do not do this you risk the email not being noticed.
2. Please be courteous and patient - we will endeavour to reply to your email within 24 hours.

## **Text Book**

The textbook for BIOL1310 (and BIOL1610) is Campbell Biology (11th Edition, Australian and NZ edition). The book is available in hard copy from the campus co-op shop (for around \$170) or as ebook (for around \$60). The textbook comes with an electronic resource called 'Mastering Biology' (for an extra cost), which includes animations, exercises and a question bank for study. We recommend the use of Mastering Biology to fully engage with the material, but will not use it formally during the course. The text book is also available in the library and there might be earlier editions available second hand that are also suitable.

## **WRITING AIDS**

Pechenik's guide to writing about biology is also recommended for this course as well as the following website. <http://abacus.bates.edu/~ganderso/biology/resources/writing/HTWsections.html> This website is comprehensive and will be incredibly useful throughout the semester.

## **OTHER HELP**

Macquarie University offers lots of help for your to develop your academic skills. Here is a list: <https://students.mq.edu.au/support/study/skills-development>

## Unit Schedule

A draft schedule of weekly lecture topics is below. See iLearn for up-to-date information.

Week 1: Welcome to Biology

Week 2: Life as we know it

Week 3: Evolution and genetics

Week 4: Species, speciation and sources of genetic variation

Week 5: Cells, prokaryotes & eukaryotes

Week 6: Phylogenies, nutrition and the left wall of life

Week 7: Fungi

Week 8: Plants as multicellular organisms

Week 9: Animals and their interactions with plants

Week 10: Reproduction and Development

Week 11: Behaviour, Ecology and Distributions

Weeks 12 and 13: Population, community and ecosystem ecology.

## 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](mailto: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](mailto: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/](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.