



BIOL7130

Research Skills for Biology

Session 1, Weekday attendance, 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

Drew Allen

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Credit points

10

Prerequisites

Admission to MRes

Corequisites

Co-badged status

Unit description

This unit has been developed specifically for BPhil/MRes students to provide them with a solid foundation in the philosophy and undertaking of scientific research. Through a series of workshops students will incrementally build their skills and knowledge of research in Biological Sciences. In parallel, students will undertake a small research project through which they apply the very skills they are discussing in tutorial classes. The unit will provide students with experience in formulating hypotheses, designing experiments, data compilation and analyses, and communication of results. The unit provides a recap of statistical analysis and works specifically to refine the writing and communication skills of students through various formats.

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: Analyse data to answer experimental hypotheses

ULO2: Collect and store safely high quality research data and critically evaluate those data for completeness, adequacy and quality

ULO3: Understand scientific method and the process of generating and testing hypotheses

ULO4: Critically review, evaluate and summarise scientific data and information

ULO5: Understand the process of designing, planning and undertaking small research projects in biological and environmental sciences

ULO6: Prepare and present scientific information to a professional standard to different audiences and in different ways

General Assessment Information

Submission of work: Your report must be submitted electronically via **TURNITIN link** in iLearn.

Scheduling of assessment tasks: The skill building assessment tasks have been scheduled so that feedback can be used to help guide you in the preparation of your report.

Academic honesty - 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 accessed at:

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

Extensions, penalties and disruptions to study: Overdue assessment tasks will attract a penalty at the rate of **5% of the total mark allocated for the task per day past the due date**. Weekend days are included in this calculation. The date and time of your submission will be taken as registered by TURNITIN.

Deadlines for assessments are **not negotiable** except under circumstances when you have experienced a serious and unavoidable disruption. In such instances, you should formally lodge a disruption to studies notification via ASK@MQ. University policy and procedure in regard to disruptions is given in the links below, but please note in particular:

1. To be eligible for special consideration, you must notify the University of a *serious and unavoidable* disruption **within five (5) working days** of the commencement of the disruption;
2. Such requests must be lodged for the **specific assessment task** for which you experienced disruption. Special consideration cannot be granted retrospectively (i.e., beyond the 5-day window of each assessment due-date);
3. Unit staff will NOT be held responsible for assessing special consideration **unless a disruption notification is formally lodged** via ASK@MQ.

Further 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.

And there is additional information on managing your Disruptions to Studies at:

http://students.mq.edu.au/student_admin/manage_your_study_program/disruption_to_studies/

Assessment Tasks

Name	Weighting	Hurdle	Due
Project pre-registration	15%	No	Week 3
Project Report	40%	No	Week 13
Time on task reflection	5%	No	Weekly
Project presentation	20%	No	Weeks 13
Skill building exercises	20%	No	Weeks 4, 6, 8, and 10

Project pre-registration

Assessment Type ¹: Plan

Indicative Time on Task ²: 20 hours

Due: **Week 3**

Weighting: **15%**

You will complete a preregistration of your research project. The preregistration will outline the background, aims and methods of your project.

On successful completion you will be able to:

- Analyse data to answer experimental hypotheses
- Collect and store safely high quality research data and critically evaluate those data for completeness, adequacy and quality
- Understand scientific method and the process of generating and testing hypotheses
- Critically review, evaluate and summarise scientific data and information
- Understand the process of designing, planning and undertaking small research projects in biological and environmental sciences

Project Report

Assessment Type ¹: Report

Indicative Time on Task ²: 20 hours

Due: **Week 13**

Weighting: **40%**

Results of your research project written up in the form of a scientific paper.

On successful completion you will be able to:

- Critically review, evaluate and summarise scientific data and information
- Understand the process of designing, planning and undertaking small research projects in biological and environmental sciences
- Prepare and present scientific information to a professional standard to different audiences and in different ways

Time on task reflection

Assessment Type **1**: Reflective Writing

Indicative Time on Task **2**: 8 hours

Due: **Weekly**

Weighting: **5%**

Through the semester, you will keep a time on task diary, and at the end of the session, you will reflect on the time required to perform various tasks and reflect on time management.

On successful completion you will be able to:

- Understand the process of designing, planning and undertaking small research projects in biological and environmental sciences

Project presentation

Assessment Type **1**: Presentation

Indicative Time on Task **2**: 10 hours

Due: **Weeks 13**

Weighting: **20%**

You will give an oral presentation to your peers on the results of your research project.

On successful completion you will be able to:

- Understand the process of designing, planning and undertaking small research projects in biological and environmental sciences
- Prepare and present scientific information to a professional standard to different audiences and in different ways

Skill building exercises

Assessment Type ¹: Problem set

Indicative Time on Task ²: 20 hours

Due: **Weeks 4, 6, 8, and 10**

Weighting: **20%**

You will undertake a series of four exercises throughout the semester using your research project data. These exercises will allow you to apply skills you learned in the tutorials to your research project.

On successful completion you will be able to:

- Analyse data to answer experimental hypotheses
- Collect and store safely high quality research data and critically evaluate those data for completeness, adequacy and quality
- Understand scientific method and the process of generating and testing hypotheses
- Critically review, evaluate and summarise scientific data and information
- Understand the process of designing, planning and undertaking small research projects in biological and environmental sciences

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

Unit readings

There is no formally prescribed text for this unit. Recommended readings will be posted in iLearn.

Workshops and practicals

All in-person activities will take place on Fridays. There are two full-day workshops scheduled during the semester, the first of which is during week 1. There are 2-hour practical blocks scheduled on the remaining Fridays during the semester. Some of these practical slots will be used for formal practical slots will be used for presentation of materials. Others will be open Q&A sessions. Sessions will be simulcast via Zoom for students unable to attend in person.

iLearn

We expect you to regularly stay in touch with the unit's dedicated iLearn site, where you will find ongoing unit announcements and a group discussion forum. The site will also be populated with material such as relevant new literature and grade outcomes for specific assessment tasks.

Additional resources of relevance are provided on the MRes community iLearn site "**Biological Sciences PG**", accessible from your iLearn homepage under "Community Units" or directly via the link:

<https://ilearn.mq.edu.au/course/view.php?id=49045>

How do you log in? The URL for the iLearn is: <https://ilearn.mq.edu.au/>. You will need to log in to iLearn each time you use it. Your user name is your student number and the password your oneID. For further details go to http://mq.edu.au/iLearn/student_info/index.htm. If you are having trouble accessing your online unit due to a disability or health condition, please contact Macquarie Student Services. If you cannot log in after ensuring you have entered your username and password correctly, contact Student IT Help: 9850 4357 (in Sydney) or 1 800 063 191 (outside Sydney).

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.