



# BIOL7130

## Research Skills for Biology

Session 1, Weekday attendance, North Ryde 2020

*Department of Biological Sciences*

### Contents

<u>General Information</u>	2
<u>Learning Outcomes</u>	2
<u>General Assessment Information</u>	3
<u>Assessment Tasks</u>	3
<u>Delivery and Resources</u>	4
<u>Unit Schedule</u>	4
<u>Policies and Procedures</u>	5
<u>Changes from Previous Offering</u>	7

#### **Disclaimer**

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## General Information

Unit convenor and teaching staff

Matthew Kosnik

[matthew.kosnik@mq.edu.au](mailto:matthew.kosnik@mq.edu.au)

Contact via email

14 Eastern Road, rm 330

stop by during normal business hours or email to arrange time.

Kate Barry

[kate.barry@mq.edu.au](mailto:kate.barry@mq.edu.au)

Credit points

10

Prerequisites

Admission to MRes

Corequisites

Co-badged status

Unit description

This unit has been developed specifically for new 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 workshops and tutorial classes. The unit will provide students with experience in formulating hypotheses, designing experiments, data collection, 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

## Assessment Tasks

### Coronavirus (COVID-19) Update

Assessment details are no longer provided here as a result of changes due to the Coronavirus (COVID-19) pandemic.

Students should consult [iLearn](#) for revised unit information.

[Find out more about the Coronavirus \(COVID-19\) and potential impacts on staff and students](#)

## General Assessment Information

### Detailed descriptions:

See iLearn for specific instructions for individual assessment tasks.

### Submission:

All assessment tasks are to be submitted via iLearn links unless otherwise indicated.

### Completion:

Students must complete all assessable tasks AND receive a final mark of >50% to pass this subject.

### Extensions and penalties:

The deadlines for assignments are not negotiable. The penalty for late submission is a deduction of 10% of the mark allocated per day that any work is submitted late. Only a medical certificate or a letter with appropriate supporting documents outlining other serious, extenuating circumstances can be used to submit an assignment after the due date without penalty. All applications for special consideration or extension must be sought before the due date unless this is absolutely impossible. All applications for extensions of deadlines must be submitted to the unit convenor via [ask@mq](mailto:ask@mq).

## Plagiarism:

The penalties imposed by the University for plagiarism are serious and may include expulsion from the University. ANY evidence of plagiarism WILL be dealt with following University policy.

Any evidence of plagiarism, collusion, sharing of answers etc (unless expressly permitted by the unit convenor) will result in, as a minimum, a score of zero (0) for that assessment task.

## Delivery and Resources

### Coronavirus (COVID-19) Update

Any references to on-campus delivery below may no longer be relevant due to COVID-19.

Please check here for updated delivery information: [https://ask.mq.edu.au/account/pub/display/unit\\_status](https://ask.mq.edu.au/account/pub/display/unit_status)

iLearn access is essential for this unit. You will be expected to regularly check the iLearn site for unit announcements and materials. Assignment marks will also be delivered via iLearn.

## Unit Schedule

### Coronavirus (COVID-19) Update

The unit schedule/topics and any references to on-campus delivery below may no longer be relevant due to COVID-19. Please consult [iLearn](#) for latest details, and check here for updated delivery information: [https://ask.mq.edu.au/account/pub/display/unit\\_status](https://ask.mq.edu.au/account/pub/display/unit_status)

Indicative / tentative unit schedule (see iLearn for updates).

Week	Topic	Task
1	The philosophy of science	Find / meet mentors, work on a research question
2	Reproducibility, project planning and pre-registration	Work on a research question, find studies & prepare pre-registration.
3	Surviving research – working as a research team, collaborations, what to expect!	Prepare presentation of your dataset & research question
4	Student presentations	Present your project plan as short seminar
5	Best practice in data analysis & power analysis	Undertake projects. Online research integrity module
6	Data storage and file management, version control, Data Carpentry intro.	Work on projects & data carpentry modules

Week	Topic	Task
7	Data Carpentry 1	Work on projects & data carpentry modules
	Session break (2 weeks)	Work on projects & data carpentry modules
8	Data Carpentry	Work on projects & data carpentry modules
9	Data visualization and presenting our data / statistics.	Work on projects & data carpentry modules
10	Data Carpentry	Work on projects & data carpentry modules
11	Data Carpentry	Work on projects & revise pre-registration.
12	Reflection on pre registration & revisions	Work on projects & prepare presentation.
13	Presentation of project outcomes as seminar	Final presentation and other final assessment tasks.

## Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central>). 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](#) (**Note:** *The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.*)

Students seeking more policy resources can visit the [Student Policy Gateway](https://students.mq.edu.au/support/study/student-policy-gateway) (<https://students.mq.edu.au/support/study/student-policy-gateway>). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

If you would like to see all the policies relevant to Learning and Teaching visit [Policy Central](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central>).

## Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of

Conduct: <https://students.mq.edu.au/study/getting-started/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](http://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](http://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](http://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.

## Changes from Previous Offering

We will be working to implement some changes to assessment weighting and content based on feedback from previous students.