



BIOL760

Biology in the 21st Century

S2 Day 2015

Dept of Biological Sciences

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General Information

Unit convenor and teaching staff

Lecturer

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Contact via email

E8A 206

Credit points

4

Prerequisites

Admission to MRes

Corequisites

Co-badged status

Unit description

This unit is designed to provide students with hands-on experience in biological research. Students will do two six-week work experience placements with two different research groups in the Department of Biological Sciences (or elsewhere by negotiation). Work may be in laboratory and field environments or a combination. Students will learn methods used by the research group, assist in particular research projects, attend research group meetings, and, potentially, pursue their own small individual project.

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:

Understand your roles relative to WHS and apply this to complete WHS requirements

Develop practical skills in laboratory and/or field methods

Evaluate methods sections in primary scientific literature

Communicate methodologies in written form

Interact with research group members and develop peer networking skills

General Assessment Information

Assessment submission

All assessments are to be submitted via Turnitin links in the BIOL760 iLearn site.

Extensions and penalties

The deadlines for assignments are not negotiable. In case of disruption supporting documents (medical certificate or documents outlining other serious, extenuating circumstances) need to be submitted with an application for disruption to study via ask.mq. If a disruption event does occur ensure that you also notify supervisor and unit covener as soon as possible. Late assessments will result in a penalty of 10% marks loss per day.

Assessment Tasks

Name	Weighting	Due
<u>Work Health and safety summary</u>	10%	16/10/15
<u>Methods for publication</u>	20%	16/11/15
<u>Research proposal</u>	20%	6/11/15
<u>Supervisors report</u>	50%	16/11/15

Work Health and safety summary

Due: **16/10/15**

Weighting: **10%**

Workplace health and safety (WHS) is an important aspect of working in a research environment. WHS includes many aspects such as safe handling of chemicals, safe and contained manipulation of biological material that may present hazards to humans or the environment, performance of research within confines of ethics (human and animal) and in accordance to laws and regulations of good workplace practice. Good WHS also includes your workstation and the facilities that you work in.

As part of your research training you will undertake diverse WHS inductions relative to your project and lab / field environment. For this assessment you need to outline the inductions you have undertaken and risk assessments / ethics / training that you have completed or that will be required for your year 2 project. You will need to identify the risks and why the different assessments are required relative to your placement. Your supervisors will be your main source to identify these requirements. This assessment can be tabulated for ease.

On successful completion you will be able to:

- Understand your roles relative to WHS and apply this to complete WHS requirements

Methods for publication

Due: **16/11/15**

Weighting: **20%**

While in the laboratory you will learn methods by following protocols or you may even develop protocols which tend to be formatted similar to a recipe i.e. step by step instructions.

Presentation of protocols / methods in scientific publications is very different to those that you follow in the laboratory.

Why is the materials and methods section of a scientific paper important? Firstly this section provides a reader with the information to determine the reliability of the results and conclusions. Secondly, the materials and methods outlines the materials used and procedures followed with sufficient detail for someone else to repeat the study. The presentation of materials and methods varies between scientific journals and it is important to read the authors instructions to ensure that your paper meets the criteria and format for the journal you have selected for submission of a paper.

For this assessment you will present the methods you have learnt in your placement in the format for a scientific paper formatted to a journal agreed upon between you and your supervisor. We will address writing the different styles of methods presentation in the three hour tutorial session

On successful completion you will be able to:

- Understand your roles relative to WHS and apply this to complete WHS requirements
- Develop practical skills in laboratory and/or field methods
- Evaluate methods sections in primary scientific literature
- Communicate methodologies in written form

Research proposal

Due: **6/11/15**

Weighting: **20%**

For this assessment you will prepare a research proposal using the template provided in iLearn. The proposal will outline background, aims and methods of your research project for year 2 of the MRes. Students will consult with their supervisors in the preparation of the proposal. A timeline is also required.

On successful completion you will be able to:

- Understand your roles relative to WHS and apply this to complete WHS requirements
- Communicate methodologies in written form

Supervisors report

Due: **16/11/15**

Weighting: **50%**

Your placement supervisors will provide a report to the unit convenors. Supervisors will be evaluating your attendance; understanding of the research; attention to detail; ability to learn new techniques and efficiency in methods performance; participation and enthusiasm; and interactions with team members;

On successful completion you will be able to:

- Develop practical skills in laboratory and/or field methods
- Interact with research group members and develop peer networking skills

Delivery and Resources

Workshop #1 July 30, 10-12pm Biology tearoom: In this session we will explain unit requirements for students and supervisors for both BIOL799 and BIOL760.

Workshop #2: September 28, 9.30am -12.30pm Biology tearoom. In this session we will examine methods, journal instructions and undertake chemical safety training. Please bring a list of the methods you will learn in this unit (determine with supervisor).

Your best resource in the unit is the supervisor.

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](#). Students should be aware of the following policies in particular with regard to Learning and Teaching:

Academic Honesty Policy http://mq.edu.au/policy/docs/academic_honesty/policy.html

Assessment Policy <http://mq.edu.au/policy/docs/assessment/policy.html>

Grading Policy <http://mq.edu.au/policy/docs/grading/policy.html>

Grade Appeal Policy <http://mq.edu.au/policy/docs/gradeappeal/policy.html>

Grievance Management Policy http://mq.edu.au/policy/docs/grievance_management/policy.html

Disruption to Studies Policy http://www.mq.edu.au/policy/docs/disruption_studies/policy.html *The Disruption to Studies Policy is effective from March 3 2014 and replaces the Special Consideration Policy.*

In addition, a number of other policies can be found in the [Learning and Teaching Category](#) of 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/support/student_conduct/

Results

Results shown in *iLearn*, 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](#).

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 improve your marks and take control of your study.

- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module for Students](#)
- [Ask a Learning Adviser](#)

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

IT Help

For help with University computer systems and technology, visit <http://informatics.mq.edu.au/help/>.

When using the University's IT, you must adhere to the [Acceptable Use Policy](#). The policy applies to all who connect to the MQ network including students.

Graduate Capabilities

PG - Capable of Professional and Personal Judgment and Initiative

Our postgraduates will demonstrate a high standard of discernment and common sense in their professional and personal judgment. They will have the ability to make informed choices and decisions that reflect both the nature of their professional work and their personal perspectives.

This graduate capability is supported by:

Learning outcome

- Understand your roles relative to WHS and apply this to complete WHS requirements

Assessment task

- Supervisors report

PG - Discipline Knowledge and Skills

Our postgraduates will be able to demonstrate a significantly enhanced depth and breadth of knowledge, scholarly understanding, and specific subject content knowledge in their chosen fields.

This graduate capability is supported by:

Learning outcomes

- Develop practical skills in laboratory and/or field methods
- Communicate methodologies in written form

Assessment tasks

- Work Health and safety summary
- Research proposal
- Supervisors report

PG - Critical, Analytical and Integrative Thinking

Our postgraduates will be capable of utilising and reflecting on prior knowledge and experience, of applying higher level critical thinking skills, and of integrating and synthesising learning and knowledge from a range of sources and environments. A characteristic of this form of thinking is the generation of new, professionally oriented knowledge through personal or group-based critique of practice and theory.

This graduate capability is supported by:

Learning outcomes

- Develop practical skills in laboratory and/or field methods
- Evaluate methods sections in primary scientific literature
- Communicate methodologies in written form

Assessment tasks

- Methods for publication
- Research proposal

PG - Research and Problem Solving Capability

Our postgraduates will be capable of systematic enquiry; able to use research skills to create new knowledge that can be applied to real world issues, or contribute to a field of study or practice to enhance society. They will be capable of creative questioning, problem finding and problem solving.

This graduate capability is supported by:

Learning outcomes

- Develop practical skills in laboratory and/or field methods
- Evaluate methods sections in primary scientific literature

Assessment task

- Research proposal

PG - Effective Communication

Our postgraduates will be able to communicate effectively and convey their views to different social, cultural, and professional audiences. They will be able to use a variety of technologically supported media to communicate with empathy using a range of written, spoken or visual formats.

This graduate capability is supported by:

Learning outcomes

- Communicate methodologies in written form
- Interact with research group members and develop peer networking skills

Assessment tasks

- Work Health and safety summary
- Methods for publication
- Research proposal
- Supervisors report

PG - Engaged and Responsible, Active and Ethical Citizens

Our postgraduates will be ethically aware and capable of confident transformative action in relation to their professional responsibilities and the wider community. They will have a sense of connectedness with others and country and have a sense of mutual obligation. They will be able to appreciate the impact of their professional roles for social justice and inclusion related to national and global issues

This graduate capability is supported by:

Learning outcomes

- Understand your roles relative to WHS and apply this to complete WHS requirements
- Interact with research group members and develop peer networking skills

Assessment task

- Work Health and safety summary