BIOL860
Biology Research Experience
S1 External 2016
Dept of Biological Sciences

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General Information

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Credit points
4

Prerequisites
(Admission to MSc in Biodiversity Conservation or PGDipSc in Biodiversity Conservation or MMarScMgt or MConsBiol) and 8cp from (BIOL861 or BIOL887 or BIOL873 or BIOL874 or BIOL877)

Corequisites

Co-badged status

Unit description
This unit enables the student to acquire biological research experience by undertaking an internship in a research laboratory or performing a small independent research project under academic supervision. If undertaking a research project the topic may be flexible, but in most cases it will be aligned with the objectives of an academic staff member involved in 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:

1. Acquire a working knowledge of how research is undertaken in conservation biology
2. Develop skills to review and evaluate data and scientific reports, relevant to biodiversity research. Gain awareness and skills in methods of sampling, measurement, analysis and interpretation. Gain understanding of methods used for measuring and assessment of biological processes.
3. Develop a working knowledge of the planning and implementation of conservation research.
4. Display discussion and presentation skills. Plan and present written arguments in coherent, well structured and documented form. Work independently, demonstrating effective communication skills.
5. Demonstrate effective time management and work organisation skills. Demonstrate effective project management skills and writing ability through maintenance of a work diary/research notebook.

General Assessment Information
To pass this unit all components of each assessment must be completed, and a grade of 50% or higher for each assessment must be achieved. You will be provided with marking schemes.

Assessment Tasks

<table>
<thead>
<tr>
<th>Name</th>
<th>Weighting</th>
<th>Due</th>
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<tbody>
<tr>
<td>Project proposal</td>
<td>20%</td>
<td>18 March 2016</td>
</tr>
<tr>
<td>Introduction and Methods</td>
<td>30%</td>
<td>2 May 2016</td>
</tr>
<tr>
<td>Scientific Report</td>
<td>30%</td>
<td>17 June 2016</td>
</tr>
<tr>
<td>Supervisor Report</td>
<td>20%</td>
<td>24 June 2016</td>
</tr>
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Project proposal
Due: 18 March 2016
Weighting: 20%

Write a short proposal explaining the work that you will undertake

On successful completion you will be able to:
• 1. Acquire a working knowledge of how research is undertaken in conservation biology
• 2. Develop skills to review and evaluate data and scientific reports, relevant to biodiversity research. Gain awareness and skills in methods of sampling, measurement, analysis and interpretation. Gain understanding of methods used for measuring and assessment of biological processes.
• 3. Develop a working knowledge of the planning and implementation of conservation research.

Introduction and Methods
Due: 2 May 2016
Weighting: 30%

Write the Introduction to the final report describing what is currently known in the area of your project and how your work will contribute to further understanding in this area, and outline the Methods used (this forms part of the major report)

On successful completion you will be able to:
• 1. Acquire a working knowledge of how research is undertaken in conservation biology
• 2. Develop skills to review and evaluate data and scientific reports, relevant to biodiversity research. Gain awareness and skills in methods of sampling, measurement, analysis and interpretation. Gain understanding of methods used for measuring and assessment of biological processes.
• 3. Develop a working knowledge of the planning and implementation of conservation research.
• 4. Display discussion and presentation skills. Plan and present written arguments in coherent, well structured and documented form. Work independently, demonstrating effective communication skills

Scientific Report
Due: 17 June 2016
Weighting: 30%

Complete the Full Scientific Report in the form of a Scientific Paper

On successful completion you will be able to:
• 1. Acquire a working knowledge of how research is undertaken in conservation biology
• 2. Develop skills to review and evaluate data and scientific reports, relevant to biodiversity research. Gain awareness and skills in methods of sampling, measurement, analysis and interpretation. Gain understanding of methods used for measuring and
assessment of biological processes.

• 4. Display discussion and presentation skills. Plan and present written arguments in coherent, well structured and documented form. Work independently, demonstrating effective communication skills
• 5. Demonstrate effective time management and work organisation skills. Demonstrate effective project management skills and writing ability through maintenance of a work diary/ research notebook

Supervisor Report
Due: 24 June 2016
Weighting: 20%

Supervisors will provide a report on student performance, progress, abilities acquired and attendance throughout placement.

On successful completion you will be able to:

• 4. Display discussion and presentation skills. Plan and present written arguments in coherent, well structured and documented form. Work independently, demonstrating effective communication skills
• 5. Demonstrate effective time management and work organisation skills. Demonstrate effective project management skills and writing ability through maintenance of a work diary/ research notebook

Delivery and Resources

Technology Used and Required

Students are required to have access to a computer and the internet to access the teaching website and unit materials. Students will also be required to have access to a word processor, spreadsheet manager and database programs to be able to complete set assessment tasks.

For field work students will require access to some field equipment, a complete list of which will be supplied within the teaching website on activation.

Unit Web Page

To access the unit and associated resources, please login to iLearn (http://ilearn.mq.edu.au/)

Guides for assist students with on-line websites and resources can be found at

Student iLearn guides: https://www.mq.edu.au/iLearn/student_info/guides.htm

Student Echo guides: https://www.mq.edu.au/iLearn/student_info/lecture_recordings.htm

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:


In addition, a number of other policies can be found in the [Learning and Teaching Category](http://www.mq.edu.au/policy/docs/complaint_management/procedure.html) 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/](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](http://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/](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 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://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.

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 outcomes

- 3. Develop a working knowledge of the planning and implementation of conservation research.
- 4. Display discussion and presentation skills. Plan and present written arguments in coherent, well structured and documented form. Work independently, demonstrating effective communication skills.
- 5. Demonstrate effective time management and work organisation skills. Demonstrate effective project management skills and writing ability through maintenance of a work diary/research notebook.

Assessment tasks

- Project proposal
- Introduction and Methods
- Scientific Report
- Supervisor 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**
- 1. Acquire a working knowledge of how research is undertaken in conservation biology
- 2. Develop skills to review and evaluate data and scientific reports, relevant to biodiversity research. Gain awareness and skills in methods of sampling, measurement, analysis and interpretation. Gain understanding of methods used for measuring and assessment of biological processes.
- 3. Develop a working knowledge of the planning and implementation of conservation research.

**Assessment tasks**
- Project proposal
- Introduction and Methods
- Scientific 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**
- 1. Acquire a working knowledge of how research is undertaken in conservation biology
- 2. Develop skills to review and evaluate data and scientific reports, relevant to biodiversity research. Gain awareness and skills in methods of sampling, measurement, analysis and interpretation. Gain understanding of methods used for measuring and assessment of biological processes.
- 3. Develop a working knowledge of the planning and implementation of conservation research.
Assessment tasks

- Project proposal
- Introduction and Methods
- Scientific Report

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

- 1. Acquire a working knowledge of how research is undertaken in conservation biology
- 2. Develop skills to review and evaluate data and scientific reports, relevant to biodiversity research. Gain awareness and skills in methods of sampling, measurement, analysis and interpretation. Gain understanding of methods used for measuring and assessment of biological processes.
- 3. Develop a working knowledge of the planning and implementation of conservation research.

Assessment tasks

- Project proposal
- Introduction and Methods
- Scientific Report

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

- 2. Develop skills to review and evaluate data and scientific reports, relevant to biodiversity research. Gain awareness and skills in methods of sampling, measurement, analysis and interpretation. Gain understanding of methods used for measuring and assessment of biological processes.
• 4. Display discussion and presentation skills. Plan and present written arguments in coherent, well structured and documented form. Work independently, demonstrating effective communication skills

Assessment tasks

• Project proposal
• Introduction and Methods
• Scientific Report
• Supervisor 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

• 1. Acquire a working knowledge of how research is undertaken in conservation biology
• 3. Develop a working knowledge of the planning and implementation of conservation research.
• 5. Demonstrate effective time management and work organisation skills. Demonstrate effective project management skills and writing ability through maintenance of a work diary/ research notebook

Assessment tasks

• Project proposal
• Introduction and Methods
• Scientific Report
• Supervisor Report