BIOL766
Advanced Studies in Palaeobiology
S1 Day 2016
Dept of Biological Sciences

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General Information

Unit convenor and teaching staff
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E8A 376

Credit points
4

Prerequisites
Admission to MRes

Corequisites

Co-badged status

Unit description
This is an advanced unit that exposes students to the best examples of recent (and classic) primary literature across a broad range of fields including palaeobiology, evolutionary biology, ecology and geobiology. In particular, this unit focuses on exciting interdisciplinary research streams where the work of geneticists and embryologists is combined fruitfully with the investigations of palaeobiologists and evolutionary biologists in order to decipher important evolutionary questions. The unit also focuses on the enormous interest in reconstructing past environments through studies of community palaeoecology, taphonomy and ecosystem evolution. Students will participate in and contribute to weekly group based discussions, debates and seminars that aim to probe, critically evaluate and assess topical questions and test prevailing models and/or hypotheses across a wide range of interdisciplinary research themes. The curriculum will include written and oral essay style assessments as well as planning and presentation of a novel research project focused on an important aspect of evolutionary biology and/or palaeobiology. This unit provides students an opportunity to directly interact with research active academic staff, postdoctoral researchers and PhD students from many disciplines including evolutionary biology, palaeobiology, ecology and geoscience.

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. Discipline Specific Knowledge and Skills. Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession.

2. Critical, Analytical and Integrative Thinking. We want our graduates to be capable of reasoning, questioning and analyzing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity. We want them to have a level of scientific and information technology literacy.

3. Problem Solving and Research Capability. Our graduates should be capable of researching; of analyzing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge.

4. Effective Communication. We want to develop in our students the ability to communicate and convey their views in forms effective with different audiences. We want our graduates to take with them the capability to read, listen, question, gather and evaluate information resources in a variety of formats, assess, write clearly, speak effectively, and to use visual communication and communication technologies as appropriate.

Assessment Tasks

<table>
<thead>
<tr>
<th>Name</th>
<th>Weighting</th>
<th>Due</th>
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<tr>
<td>Early Semester Task</td>
<td>5%</td>
<td>Week 4</td>
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<tr>
<td>Essay 1</td>
<td>40%</td>
<td>Week 8</td>
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<tr>
<td>Project Presentation</td>
<td>15%</td>
<td>Week 11</td>
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<tr>
<td>Essay 2</td>
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<td>Week 12</td>
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Early Semester Task

Due: **Week 4**

Weighting: 5%

Details to be decided with Supervisor; may take the form of an annotated bibliography,
discussion and reply topic or relevant book review

On successful completion you will be able to:

- 1. Discipline Specific Knowledge and Skills. Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession.

- 2. Critical, Analytical and Integrative Thinking. We want our graduates to be capable of reasoning, questioning and analyzing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity. We want them to have a level of scientific and information technology literacy.

- 3. Problem Solving and Research Capability. Our graduates should be capable of researching; of analyzing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge.

Essay 1

Due: Week 8
Weighting: 40%

Essay based one of the Weekly Discussion Topics held from Weeks 1-6

On successful completion you will be able to:

- 1. Discipline Specific Knowledge and Skills. Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession.

- 2. Critical, Analytical and Integrative Thinking. We want our graduates to be capable of reasoning, questioning and analyzing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity. We want them to have a level of scientific and information technology literacy.

- 3. Problem Solving and Research Capability. Our graduates should be capable of researching; of analyzing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge.
Project Presentation

Due: **Week 11**
Weighting: **15%**

20 min seminar outlining rationale, logistics, materials and methods for a potential MRes/PhD Project

On successful completion you will be able to:

- 4. Effective Communication. We want to develop in our students the ability to communicate and convey their views in forms effective with different audiences. We want our graduates to take with them the capability to read, listen, question, gather and evaluate information resources in a variety of formats, assess, write clearly, speak effectively, and to use visual communication and communication technologies as appropriate.

Essay 2

Due: **Week 12**
Weighting: **40%**

Essay based one of the Weekly Discussion Topics held from Weeks 7-11

On successful completion you will be able to:

- 1. Discipline Specific Knowledge and Skills. Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession.
- 2. Critical, Analytical and Integrative Thinking. We want our graduates to be capable of reasoning, questioning and analyzing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity. We want them to have a level of scientific and information technology literacy.
- 3. Problem Solving and Research Capability. Our graduates should be capable of researching; of analyzing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge.

Delivery and Resources

Attendance at weekly meeting in the palaeobiology lab are mandatory. Required readings will be...
designated on a weekly basis.

**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 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.

**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**
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

• 1. Discipline Specific Knowledge and Skills. Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession.

• 2. Critical, Analytical and Integrative Thinking. We want our graduates to be capable of reasoning, questioning and analyzing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity. We want them to have a level of scientific and information technology literacy.

• 3. Problem Solving and Research Capability. Our graduates should be capable of researching; of analyzing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge.

• 4. Effective Communication. We want to develop in our students the ability to
communicate and convey their views in forms effective with different audiences. We want our graduates to take with them the capability to read, listen, question, gather and evaluate information resources in a variety of formats, assess, write clearly, speak effectively, and to use visual communication and communication technologies as appropriate.

Assessment tasks

- Early Semester Task
- Essay 1
- Project Presentation
- Essay 2

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 outcome

- 1. Discipline Specific Knowledge and Skills. Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession.

Assessment tasks

- Early Semester Task
- Essay 1
- Essay 2

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 outcome

- 2. Critical, Analytical and Integrative Thinking. We want our graduates to be capable of
reasoning, questioning and analyzing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity. We want them to have a level of scientific and information technology literacy.

**Assessment tasks**

- Early Semester Task
- Essay 1
- Essay 2

**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 outcome**

- 3. Problem Solving and Research Capability. Our graduates should be capable of researching; of analyzing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge.

**Assessment tasks**

- Early Semester Task
- Essay 1
- Essay 2

**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 outcome**

- 4. Effective Communication. We want to develop in our students the ability to communicate and convey their views in forms effective with different audiences. We want our graduates to take with them the capability to read, listen, question, gather and
evaluate information resources in a variety of formats, assess, write clearly, speak effectively, and to use visual communication and communication technologies as appropriate.

Assessment task

- Project Presentation

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. Discipline Specific Knowledge and Skills. Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession.
- 2. Critical, Analytical and Integrative Thinking. We want our graduates to be capable of reasoning, questioning and analyzing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity. We want them to have a level of scientific and information technology literacy.
- 3. Problem Solving and Research Capability. Our graduates should be capable of researching; of analyzing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge.
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