



BIOL766

Advanced Studies in Palaeobiology

S1 Day 2019

Dept of Biological Sciences

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General Information

Unit convenor and teaching staff

John Alroy

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Kate Barry

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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. Evaluate and synthesise current literature concerning large spatial, temporal and intellectual scales in evolutionary biology, palaeobiology and ecology
2. Design, construct, and present innovative written and oral evaluations and interpretations of relevant primary literature at an advanced level
3. Organise, lead, and convene a group discussion focussed on current or controversial topics in evolutionary biology and based on recently published relevant primary sources
4. Plan and devise novel research focussed on an important aspect of evolutionary biology and/or palaeobiology

General Assessment Information

1. Weekly Summaries

Each week, each student will summarise literature related to the discussion topic. The main aim is to lay the foundation for good practice in data mining primary scientific literature, evaluating data sources, and formatting written work. The summaries should review at least four relatively new and pertinent scientific papers or books. The summary of each paper should be no longer than 30 words.

2. Essays

Two essays (maximum 2500 words each) will be produced. Each essay is based on a topic of your choice. Both essay topics must be substantially different from your MRes research.

The essays will provide you with an opportunity to delve more deeply into the literature and present a more comprehensive analysis of the topic. Details on exact submission dates, specific marking criteria and format for each stream will be provided separately.

Students will be assessed on coverage and comprehension of the literature relevant to the chosen topics, critical evaluation of the material, and style and writing of the essay.

The essays will be independently assessed by the supervisor and at least one other member of staff with relevant expertise. More staff may be co-opted to act as independent assessors if required.

The due dates will be agreed in discussions between the student and supervisor. Normally, Essay 1 is handed in by the end of week 7 and Essay 2 at the end of Week 11.

3. Research Presentation

Each student will be expected to present a seminar of 20 minutes duration plus 10 minutes for questions and discussion.

It is important that your talk is well structured. Remember to keep the structure of your talk simple, but logical.

You will need to carefully evaluate and present only essential, important and relevant material (especially illustrations) in an organised and logical sequence. The best seminars are those that are relatively simple, logically organised, clearly illustrated, informative and entertaining. Remember that the seminar is worth 15% of your final mark, so we expect high quality work (especially in terms of scientific evaluation, presentation of factually correct information and relevance). Your presentation will be presented during the Week 12 or 13 meetings (see Schedule) and the audience will consist of at least 2 staff members, relevant postdocs, PhD students, and other MRes students. Other students completing BIOL766 will also be present.

Marks will be allocated for:

- (a) Scientific content, factual correctness, and relevance— how well data have been evaluated, synthesised and presented. Adequate acknowledgement of relevant sources. (50%)
- (b) Organisation and logistics – the materials and methods are clearly and logically outlined. (20%)
- (c) Clarity of presentation (oral and visual); quality of the visuals presented (30%)

Essay submission and *Turnitin*

Both essays must initially be submitted via *Turnitin* which can be accessed via the BIOL766 website. Essays will not be marked until they have been submitted to the *Turnitin* website.

More detailed information and instructions for using *Turnitin*, including quickstart and step-by-step user manuals, can be found at: <http://www.turnitin.com/static/training.html>.

Extensions and penalties

10% off the mark allocated for essays will be deducted per day for any work that is submitted after the due date.

The deadlines for essays are not negotiable. Only a medical certificate or a letter with appropriate supporting documents outlining other serious, extenuating circumstances can be used to submit an essay 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 appropriate unit convenor.

Feedback and unit evaluation

As this is a small unit, there should be a considerable amount of contact between the student

and their supervisor. This contact can be face to face or via electronic communication. Informal feedback will be provided on semi regular basis. In addition you will receive written feedback on your essays. The unit is too small to allow anonymous unit evaluation surveys to be used. However, we hope students will raise any issues with their supervisor and/or the convener of the stream they are undertaking.

Assessment Tasks

Name	Weighting	Hurdle	Due
Weekly Summaries	5%	No	Weekly
Essay 1	40%	No	Week 7
Essay 2	40%	No	Week 11
Research Presentation	15%	No	Weeks 12 or 13

Weekly Summaries

Due: **Weekly**

Weighting: **5%**

Brief annotated bibliography related to the weekly discussion

On successful completion you will be able to:

- 1. Evaluate and synthesise current literature concerning large spatial, temporal and intellectual scales in evolutionary biology, palaeobiology and ecology
- 2. Design, construct, and present innovative written and oral evaluations and interpretations of relevant primary literature at an advanced level

Essay 1

Due: **Week 7**

Weighting: **40%**

2500 word essay on a selected topic

On successful completion you will be able to:

- 1. Evaluate and synthesise current literature concerning large spatial, temporal and intellectual scales in evolutionary biology, palaeobiology and ecology
- 2. Design, construct, and present innovative written and oral evaluations and interpretations of relevant primary literature at an advanced level
- 4. Plan and devise novel research focussed on an important aspect of evolutionary

biology and/or palaeobiology

Essay 2

Due: **Week 11**

Weighting: **40%**

2500 word essay on a selected topic

On successful completion you will be able to:

- 1. Evaluate and synthesise current literature concerning large spatial, temporal and intellectual scales in evolutionary biology, palaeobiology and ecology
- 2. Design, construct, and present innovative written and oral evaluations and interpretations of relevant primary literature at an advanced level
- 4. Plan and devise novel research focussed on an important aspect of evolutionary biology and/or palaeobiology

Research Presentation

Due: **Weeks 12 or 13**

Weighting: **15%**

20 minute seminar based on research carried out during the semester

On successful completion you will be able to:

- 1. Evaluate and synthesise current literature concerning large spatial, temporal and intellectual scales in evolutionary biology, palaeobiology and ecology
- 2. Design, construct, and present innovative written and oral evaluations and interpretations of relevant primary literature at an advanced level
- 3. Organise, lead, and convene a group discussion focussed on current or controversial topics in evolutionary biology and based on recently published relevant primary sources
- 4. Plan and devise novel research focussed on an important aspect of evolutionary biology and/or palaeobiology

Delivery and Resources

Pre-requisites

BIOL766 is offered as an optional unit in Biological Sciences for students enrolled in the Bachelor of Philosophy and Master of Research Degrees.

Unit description

This advanced postgraduate unit exposes students to the best examples of recent and classic primary scientific literature across palaeobiology, including related research in evolutionary

biology, ecology, and geobiology. Students will contribute to combined seminars and discussions each week. There are both written and oral assessments. This unit provides students with an opportunity to directly interact with research active academic staff, postdoctoral researchers, PhD students, and year 2 MRes students.

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.*)

Undergraduate 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 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 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

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.

Graduate Capabilities

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. Evaluate and synthesise current literature concerning large spatial, temporal and intellectual scales in evolutionary biology, palaeobiology and ecology
- 2. Design, construct, and present innovative written and oral evaluations and interpretations of relevant primary literature at an advanced level
- 3. Organise, lead, and convene a group discussion focussed on current or controversial topics in evolutionary biology and based on recently published relevant primary sources
- 4. Plan and devise novel research focussed on an important aspect of evolutionary

biology and/or palaeobiology

Assessment tasks

- Weekly Summaries
- Essay 1
- Essay 2
- Research Presentation

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. Evaluate and synthesise current literature concerning large spatial, temporal and intellectual scales in evolutionary biology, palaeobiology and ecology
- 2. Design, construct, and present innovative written and oral evaluations and interpretations of relevant primary literature at an advanced level
- 3. Organise, lead, and convene a group discussion focussed on current or controversial topics in evolutionary biology and based on recently published relevant primary sources
- 4. Plan and devise novel research focussed on an important aspect of evolutionary biology and/or palaeobiology

Assessment tasks

- Weekly Summaries
- Essay 1
- Essay 2
- Research Presentation

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. Evaluate and synthesise current literature concerning large spatial, temporal and intellectual scales in evolutionary biology, palaeobiology and ecology
- 2. Design, construct, and present innovative written and oral evaluations and interpretations of relevant primary literature at an advanced level
- 3. Organise, lead, and convene a group discussion focussed on current or controversial topics in evolutionary biology and based on recently published relevant primary sources
- 4. Plan and devise novel research focussed on an important aspect of evolutionary biology and/or palaeobiology

Assessment tasks

- Weekly Summaries
- Essay 1
- Essay 2
- Research Presentation

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. Design, construct, and present innovative written and oral evaluations and interpretations of relevant primary literature at an advanced level
- 3. Organise, lead, and convene a group discussion focussed on current or controversial topics in evolutionary biology and based on recently published relevant primary sources

Assessment tasks

- Weekly Summaries
- Essay 1
- Essay 2
- Research Presentation