BIOL2520

History of Life

Session 2, Weekday attendance, North Ryde 2020

Department of Biological Sciences

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Disclaimer

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Notice

As part of Phase 3 of our return to campus plan, most units will now run tutorials, seminars and ot her small group learning activities on campus for the second half-year, while keeping an online ver sion available for those students unable to return or those who choose to continue their studies onli ne.

To check the availability of face-to-face and onlin e activities for your unit, please go to timetable vi ewer. To check detailed information on unit asses sments visit your unit's iLearn space or consult yo ur unit convenor.

General Information

Unit convenor and teaching staff Glenn Brock glenn.brock@mq.edu.au
Credit points 10
Prerequisites 50cp including 10cp from ((BIOL1310 or BIOL114) or (GEOS2042 or GEOS204)) AND 10cp from (BIOL or ENVS or GEOS or (ANTH1051 or ANTH151) or AHIS190)
Corequisites
Co-badged status
Unit description The aim of this unit is to provide students with an introduction to the history and evolution of life on Earth. In this unit, students will be exposed to important core concepts in palaeonbiology such as evolution and extinction, functional morphology and biostratigraphy, and will investigate the morphology and evolutionary significance of the most important invertebrate and vertebrate animals groups (such as trilobites and dinosaurs) and plants in the fossil record. Combined with the opportunity to work with real fossil material during practical classes, students will also learn how fossils are used in applied palaeontology to solve various biological, ecological and geological problems. This approach gives students the opportunity to develop a deep time perspective to many of the environmental issues and challenges facing the world today. A voluntary, one day excursion to the Hunter Valley is also available and will allow students to observe fossils in the field and to collect their own fossil material.

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: Use fossils to interpret and reconstruct the history of life on Earth.

ULO2: Identify the major morphological features of important invertebrate and vertebrate groups preserved in the fossil record.

ULO3: Describe the significant evolutionary trends displayed by important animal and

plant groups preserved in the fossil record.

ULO4: Use fossils to solve basic biological, ecological, environmental and geological problems.

ULO5: Undertake basic studies and interpretations of biostratigraphy, functional morphology, palaeoenvironmental reconstruction and palaeoclimatic interpretation.

ULO6: Use both verbal and written communication techniques to present your own ideas, analyses and interpretations of scientific evidence presented in the primary scientific literature.

General Assessment Information

Task	Weight	Due Date	Linked Learning Outcomes	Linked Graduate Capabilities	Brief Description
iLearn Lecture Quizzes	15%	To be completed via the BIOL2520 iLearn page – see schedule for due dates	1-5	1-5, 7-9	iLearn weekly quizzes, 20 questions based on information presented in 2 Lectures/wk AND specific readings from the Textbook. Some questions will require independent research.
iLearn Laboratory Quizzes	20%	To be completed via the BIOL2520 iLearn page – see schedule for due dates	1-5	1-5, 7-9	iLearn weekly quizzes, 20 questions based on specific material presented during the laboratory sessions each week.
Discussion Topic/ Scientific Evaluation (800 words)	15%	Week 5: Day students to upload pdf to Turnit-in on or before **23:59 on FRIDAY 21 August**	1, 3, 5, 6	2-6, 8, 9	Provides an opportunity to delve into the primary literature and formulate your own supported opinions on a hotly debated topic in palaeontology. There will be a discussion of the evidence in the Week 5 Lab and OCS Block 1. You will provide an 800 word evaluation on the Discussion Topic. Feedback will allow improvement in the Major Assignment
Major Assignment (2500 words)	30%	Week 9: All students upload to Turnit-in on **FRIDAY 9 October before 23.59.**	1, 3, 5, 6	2-6, 8, 9	Students must choose and submit **ONE** Major Assignment from the two possible topics. 2500 words. FOLLOW THE GUIDELINES! See iLearn page.

Zoom Seminar	20%	Weeks 11-13 – Volunteer or be randomly allocated	1, 4-6	1-5	A 10 minute seminar [8 mins + 2 mins for questions] present via ZOOM. Focussed on an applied case study from the primary scientific literature.

Assessment Tasks

Name	Weighting	Hurdle	Due
Student talk	20%	No	Weeks 12-13
Lab Quiz	20%	No	Weeks 3-11
Lecture + Readings Quiz	15%	No	Weeks 1-11
Major Essay	30%	No	Week 9, 09/10/2020
Discussion Topic	15%	No	Week 5, 21/08/2020

Student talk

Assessment Type [1]: Presentation
Indicative Time on Task [2]: 25 hours
Due: **Weeks 12-13**
Weighting: **20%**

Students will give a powerpoint presentation outlining a specific case study demonstrating the applied use of fossils to solve biological, ecological, environmental and geological problems

On successful completion you will be able to:

- Use fossils to interpret and reconstruct the history of life on Earth.
- Use fossils to solve basic biological, ecological, environmental and geological problems.
- Use both verbal and written communication techniques to present your own ideas, analyses and interpretations of scientific evidence presented in the primary scientific literature.

Lab Quiz

Assessment Type [1]: Quiz/Test
Indicative Time on Task [2]: 10 hours
Due: **Weeks 3-11**

Weighting: **20%**

There will be short quizzes associated with each Lab class. Students required to attend Labs to be able to answer Qs

On successful completion you will be able to:

- Use fossils to interpret and reconstruct the history of life on Earth.
- Use fossils to solve basic biological, ecological, environmental and geological problems.
- Undertake basic studies and interpretations of biostratigraphy, functional morphology, palaeoenvironmental reconstruction and palaeoclimatic interpretation.

Lecture + Readings Quiz

Assessment Type [1]: Quiz/Test
Indicative Time on Task [2]: 15 hours
Due: **Weeks 1-11**
Weighting: **15%**

Weekly quizzes will be based on lectures and readings.

On successful completion you will be able to:

- Use fossils to interpret and reconstruct the history of life on Earth.
- Identify the major morphological features of important invertebrate and vertebrate groups preserved in the fossil record.
- Describe the significant evolutionary trends displayed by important animal and plant groups preserved in the fossil record.

Major Essay

Assessment Type [1]: Essay
Indicative Time on Task [2]: 40 hours
Due: **Week 9, 09/10/2020**
Weighting: **30%**

A scientific essay on a choice of 3 prescribed palaeo topics. A few core papers provided for each topic, student must data mine, read papers, formulate and organise text, write formal scientific paper.

On successful completion you will be able to:

- Describe the significant evolutionary trends displayed by important animal and plant groups preserved in the fossil record.
- Use fossils to solve basic biological, ecological, environmental and geological problems.
- Undertake basic studies and interpretations of biostratigraphy, functional morphology, palaeoenvironmental reconstruction and palaeoclimatic interpretation.
- Use both verbal and written communication techniques to present your own ideas, analyses and interpretations of scientific evidence presented in the primary scientific literature.

Discussion Topic

Assessment Type [1]: Case study/analysis
Indicative Time on Task [2]: 19 hours
Due: **Week 5, 21/08/2020**
Weighting: **15%**

Students will develop a written response based on critical evaluation of evidence on palaeo topic with opposing views. Used as training for scientific writing that can be used to improve Major Essay

On successful completion you will be able to:

- Use fossils to interpret and reconstruct the history of life on Earth.
- Use fossils to solve basic biological, ecological, environmental and geological problems.
- Undertake basic studies and interpretations of biostratigraphy, functional morphology, palaeoenvironmental reconstruction and palaeoclimatic interpretation.
- Use both verbal and written communication techniques to present your own ideas, analyses and interpretations of scientific evidence presented in the primary scientific literature.

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[1] If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the Writing Centre for academic skills support.

[2] Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

Delivery and Resources

2 x pre-recorded Lectures per week [weeks 1-11]

3 live zoom tutorials

8 x weekly Labs [Weeks 3-11]. OneWeek lost due to Labour day

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). 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). 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).

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 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

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.