GEOS700

Research Frontiers: Advances in Earth and Planetary Sciences

S1 Day 2015

Dept of Earth and Planetary Sciences

Contents

General Information

Unit convenor and teaching staff
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Credit points
4

Prerequisites
Admission to MRes

Corequisites

Co-badged status

Unit description
This unit is designed to engage students with the current research that is happening in the field of Earth and Planetary Sciences. Activities undertaken will include seminar attendance, the directed reading of research papers in readiness for seminars, and the discussion and critiquing of research topics. A presentation of a seminar and written reports based on the seminars and discussion topics are required for completion of this unit.

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. understanding of issues concerning the dynamics of the earth
2. understanding of the structure and evolution of the Earth
3. understanding of the fundamental tectonics and geohistory of the Earth
4. understanding scientific methodology
5. competence in accessing, using and synthesising appropriate information
6. application of knowledge to solving problems and evaluating ideas and information
7. capacity to present ideas clearly with supporting evidence

Assessment Tasks

Name	Weighting	Due
Assignment 1	20%	Week 5
Assignment 2	40%	Week 12
Presentations	30%	Ongoing
Participation	10%	Ongoing

Assignment 1

Due: **Week 5**
Weighting: **20%**

The first short assignment will consist solely of a synopsis of two presented research papers, presented in the form of a *Nature News and* Views article. Details presented in class.

On successful completion you will be able to:

- 1. understanding of issues concerning the dynamics of the earth
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- 5. competence in accessing, using and synthesising appropriate information
- 6. application of knowledge to solving problems and evaluating ideas and information
- 7. capacity to present ideas clearly with supporting evidence

Assignment 2

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

The second, larger, paper is an in-depth analysis of one of the discussion topics. The paper you submit should be in the form of a paper for submission to the journal; *Journal of Geophysical Research*. It should be typed, double spaced, and about 3000 words in length and adequately illustrated with appropriate figures.

On successful completion you will be able to:

- 1. understanding of issues concerning the dynamics of the earth
- 2. understanding of the structure and evolution of the Earth

- 3. understanding of the fundamental tectonics and geohistory of the Earth
- 4. understanding scientific methodology
- 5. competence in accessing, using and synthesising appropriate information
- 6. application of knowledge to solving problems and evaluating ideas and information
- 7. capacity to present ideas clearly with supporting evidence

Presentations

Due: **Ongoing**
Weighting: **30%**

Two seminars will be given during the course of unit, each on one paper up for discussion in a given week. The format should be as per a conference presentation. The seminars will be assessed, as is student participation in the critical discussion of each paper.

On successful completion you will be able to:

- 1. understanding of issues concerning the dynamics of the earth
- 2. understanding of the structure and evolution of the Earth
- 3. understanding of the fundamental tectonics and geohistory of the Earth
- 4. understanding scientific methodology
- 5. competence in accessing, using and synthesising appropriate information
- 6. application of knowledge to solving problems and evaluating ideas and information
- 7. capacity to present ideas clearly with supporting evidence

Participation

Due: **Ongoing**
Weighting: **10%**

Participation in discussion, peer questioning, and peer assessment are all critical components of this course.

On successful completion you will be able to:

- 4. understanding scientific methodology
- 5. competence in accessing, using and synthesising appropriate information
- 7. capacity to present ideas clearly with supporting evidence

Delivery and Resources

2 hr discussion weekly.

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 outcomes

- 2. understanding of the structure and evolution of the Earth
- 3. understanding of the fundamental tectonics and geohistory of the Earth
- 4. understanding scientific methodology
- 5. competence in accessing, using and synthesising appropriate information
- 6. application of knowledge to solving problems and evaluating ideas and information
- 7. capacity to present ideas clearly with supporting evidence

Assessment tasks

- Assignment 1
- Assignment 2
- Presentations
- Participation

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. understanding of issues concerning the dynamics of the earth
- 2. understanding of the structure and evolution of the Earth
- 3. understanding of the fundamental tectonics and geohistory of the Earth
- 6. application of knowledge to solving problems and evaluating ideas and information

Assessment tasks

- Assignment 1
- Assignment 2
- Presentations

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. understanding of issues concerning the dynamics of the earth
- 2. understanding of the structure and evolution of the Earth
- 3. understanding of the fundamental tectonics and geohistory of the Earth
- 4. understanding scientific methodology
- 5. competence in accessing, using and synthesising appropriate information

Assessment tasks

- Assignment 1
- Assignment 2
- Presentations
- Participation

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. understanding of issues concerning the dynamics of the earth
- 2. understanding of the structure and evolution of the Earth
- 3. understanding of the fundamental tectonics and geohistory of the Earth
- 4. understanding scientific methodology
- 5. competence in accessing, using and synthesising appropriate information
- 6. application of knowledge to solving problems and evaluating ideas and information
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Assessment tasks

- Assignment 1
- Assignment 2
- Presentations

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

- 4. understanding scientific methodology
- 6. application of knowledge to solving problems and evaluating ideas and information
- 7. capacity to present ideas clearly with supporting evidence

Assessment tasks

- Assignment 1
- Assignment 2
- Presentations
- Participation

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

- 3. understanding of the fundamental tectonics and geohistory of the Earth
- 4. understanding scientific methodology
- 5. competence in accessing, using and synthesising appropriate information
- 6. application of knowledge to solving problems and evaluating ideas and information
- 7. capacity to present ideas clearly with supporting evidence

Assessment tasks

- Assignment 2
- Presentations
- Participation