



GEOS7901

Research Methods in Earth and Environmental Sciences

Session 1, Weekday attendance, North Ryde 2021

Archive (Pre-2022) - Department of Earth and Environmental Sciences

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Notice

As part of [Phase 3 of our return to campus plan](#), most units will now run tutorials, seminars and other small group activities on campus, and most will keep an online version available to those students unable to return or those who choose to continue their studies online.

To check the availability of face-to-face activities for your unit, please go to [timetable viewer](#). To check detailed information on unit assessments visit your unit's iLearn space or consult your unit convenor.

General Information

Unit convenor and teaching staff Convenor SimonTurner simon.turner@mq.edu.au
Credit points 10
Prerequisites Admission to MRes
Corequisites
Co-badged status GEOS8801
Unit description This foundation unit facilitates student transition from undergraduate studies to the scientific research environment. The unit provides advanced training in research methods and develops a variety of practical skills that are required to become a successful researcher in Earth and Environmental Sciences. Students will shadow a current PhD student or staff scientist to experience some of the active research being conducted within the department. Students will be trained in technical software and will investigate research techniques relevant to their specific research interests.

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: Demonstrate a working understanding of strategies and methods of conducting research in the Earth and Environmental Sciences as well as knowledge of general research tools and practices.

ULO2: Actively engage with on-going research activities in the department and develop hands on experience with the methods used.

ULO3: Analyze the ethics associated with their scientific discipline and how it relates to

publishing scientific research papers

ULO4: Apply effective communication strategies for sharing research results in writing, oral and graphical form.

Assessment Tasks

Name	Weighting	Hurdle	Due
Participation	15%	No	N/A
Ethics Case Study	25%	No	week 7
Research experience and planning project	50%	No	Week 13
Scientific Figure	10%	No	Week 10

Participation

Assessment Type ¹: Participatory task

Indicative Time on Task ²: 25 hours

Due: **N/A**

Weighting: **15%**

This mark includes participation in seminar discussions and minor assignments associated with lectures.

On successful completion you will be able to:

- Demonstrate a working understanding of strategies and methods of conducting research in the Earth and Environmental Sciences as well as knowledge of general research tools and practices.
- Actively engage with on-going research activities in the department and develop hands on experience with the methods used.
- Analyze the ethics associated with their scientific discipline and how it relates to publishing scientific research papers
- Apply effective communication strategies for sharing research results in writing, oral and graphical form.

Ethics Case Study

Assessment Type ¹: Case study/analysis

Indicative Time on Task ²: 20 hours

Due: **week 7**

Weighting: **25%**

A written case study on a scientific ethics topic

On successful completion you will be able to:

- Demonstrate a working understanding of strategies and methods of conducting research in the Earth and Environmental Sciences as well as knowledge of general research tools and practices.
- Analyze the ethics associated with their scientific discipline and how it relates to publishing scientific research papers

Research experience and planning project

Assessment Type ¹: Project

Indicative Time on Task ²: 35 hours

Due: **Week 13**

Weighting: **50%**

engage with an active research/project within the department, develop a research proposal and present the results

On successful completion you will be able to:

- Demonstrate a working understanding of strategies and methods of conducting research in the Earth and Environmental Sciences as well as knowledge of general research tools and practices.
- Actively engage with on-going research activities in the department and develop hand's on experience with the methods used.
- Apply effective communication strategies for sharing research results in writing, oral and graphical form.

Scientific Figure

Assessment Type ¹: Design Implementation

Indicative Time on Task ²: 10 hours

Due: **Week 10**

Weighting: **10%**

Construct a scientific figure fit for journal publication using graphics editing software.

On successful completion you will be able to:

- Demonstrate a working understanding of strategies and methods of conducting research in the Earth and Environmental Sciences as well as knowledge of general research tools and practices.
- Apply effective communication strategies for sharing research results in writing, oral and

graphical form.

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

A variety of different software is throughout in this unit and it is highly recommended that each student has a laptop.

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://policies.mq.edu.au\)](https://policies.mq.edu.au). 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](#)

Students seeking more policy resources can visit [Student Policies \(https://students.mq.edu.au/support/study/policies\)](https://students.mq.edu.au/support/study/policies). It is your one-stop-shop for the key policies you need to know about throughout your undergraduate student journey.

To find other policies relating to Teaching and Learning, visit [Policy Central \(https://policies.mq.edu.au\)](https://policies.mq.edu.au) and use the [search tool](#).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/admin/other-resources/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.