



ENVS700

Research Frontiers in Environmental Sciences

S1 Day 2017

Dept of Environmental Sciences

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General Information

Unit convenor and teaching staff
Convenor Tim Ralph tim.ralph@mq.edu.au By appointment
Credit points 4
Prerequisites Admission to MRes
Corequisites
Co-badged status
Unit description This unit will engage students with current research in environmental sciences. It introduces students to current research questions across the discipline and focuses on developing an understanding of core concepts relevant to their preferred research topics. Activities include classes, seminar attendance, directed reading of research papers, and discussion and critiquing of research topics and trends. Presentation of a seminar and a written report based on the research frontiers examined 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:

- Ability to reflect upon and identify the importance of environmental research
- Ability to review current academic debates and identify research frontiers in environmental sciences
- Develop a critical awareness of decision-making processes that shape how research is designed and data generated
- Develop skills in basic research design and in working with supervisors
- Awareness and appreciation for how different disciplines approach similar environmental research topics

Ability to critically assess seminars and compare and contrast research approaches
Ability to contribute to academic discussion and to communicate research ideas in oral and written form

General Assessment Information

The assessment tasks in ENV5700 are designed to:

- Encourage students to reflect upon their motivations for undertaking research and their research goals;
- Engage students with current research in environmental sciences;
- Introduce students to novel research questions and develop an understanding of core concepts;
- Develop skills in critical thinking, academic engagement, communication, and project design for research.

Assessment Tasks

Name	Weighting	Hurdle	Due
1 Understanding Research	20%	No	Wed 15 March
2 Research Frontiers	40%	No	Wed 12 April
3 Oral presentation	20%	No	Wed 10 May
4 Seminar blog	20%	No	Monthly

1 Understanding Research

Due: **Wed 15 March**

Weighting: **20%**

Why is environmental research important? Write a short essay (use sub-headings) outlining why you have chosen to pursue a research project in the field of environmental science. Your report should be reflective, discussing your own goals and motivations, while also developing your ideas for research based on discussions with at least one staff member in a related field. You should use academic articles to frame your ideas, where possible.

On successful completion you will be able to:

- Ability to reflect upon and identify the importance of environmental research

2 Research Frontiers

Due: **Wed 12 April**

Weighting: **40%**

How do different scientific disciplines approach an environmental issue? In this assignment you are required to analyse the research frontiers of at least two different disciplines (or sub-disciplines) in relation to a particular environmental issue. The environmental issue you choose and the disciplines or sub-disciplines you focus upon should be agreed upon with the course convenor. Your assignment should contrast how different disciplines conceptualise and approach the research area, the different types of methods used, and key findings and insights different disciplines bring. The assignment should conclude with a discussion on the strengths and challenges of multi-disciplinary environmental research.

On successful completion you will be able to:

- Ability to review current academic debates and identify research frontiers in environmental sciences
- Develop a critical awareness of decision-making processes that shape how research is designed and data generated
- Develop skills in basic research design and in working with supervisors
- Awareness and appreciation for how different disciplines approach similar environmental research topics

3 Oral presentation

Due: **Wed 10 May**

Weighting: **20%**

What are the frontiers in environmental research? This assessment requires you to give a brief oral presentation (10 minutes) in which you discuss how researchers are approaching a particular environmental issue. You should focus on the current state of knowledge, debates and future challenges. The presentation should conclude with some ideas about how you would like to contribute to these debates through a research project and why.

On successful completion you will be able to:

- Ability to review current academic debates and identify research frontiers in environmental sciences
- Develop a critical awareness of decision-making processes that shape how research is designed and data generated
- Develop skills in basic research design and in working with supervisors
- Awareness and appreciation for how different disciplines approach similar environmental research topics

- Ability to contribute to academic discussion and to communicate research ideas in oral and written form

4 Seminar blog

Due: **Monthly**

Weighting: **20%**

How do approaches to research differ? Write a short monthly blog that critically assesses the approaches to research presented in a seminar. Your report should consider the scope and outcomes of the research, as well as the merits and limitations of the design and methods.

On successful completion you will be able to:

- Ability to reflect upon and identify the importance of environmental research
- Ability to review current academic debates and identify research frontiers in environmental sciences
- Awareness and appreciation for how different disciplines approach similar environmental research topics
- Ability to critically assess seminars and compare and contrast research approaches

Delivery and Resources

ENV5700 includes classes, seminar attendance, directed reading of research papers, and discussion and critiquing of research topics. ENV5700 will make use of web-based teaching support through iLearn. Students require access to the internet and regular contact with the unit's iLearn site, as well as the assignment submission program on iLearn, Turnitin. To complete assignments, students need access to Word processing programs and PowerPoint (or similar) for class presentations.

Unit Schedule

Timetable

See: <https://timetables.mq.edu.au>

Program

The program is arranged around a series of classes that cover key L&T activities and align with assessment tasks. In addition, students are expected to attend all Department of Environmental Sciences seminars (related to assessment 4) and to be in regular contact with the unit convenor and other staff members most aligned to the research frontiers that they are exploring.

Week	Topic	Assessment
1	Introduction to research in Environmental Sciences	

2	The importance of scientific inquiry	
3	Nuts and bolts (search, read, think critically, write, cite)	Assessment 1 (20%)
4	Understanding and defining a research frontier	
5	Idea explosion	Assessment 4 (progress update)
6	Developing a research question	
7	Networking and collaboration	Assessment 2 (40%)
Recess		
8	Academic engagement and communication	Assessment 4 (progress update)
9	Oral presentations	Assessment 3 (20%)
10	Oral presentations	
11	Research project design and management	
12	Strategic publishing and impact	Assessment 4 (20%)
13	MRes Year 2	

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_2016.html

Grade Appeal Policy <http://mq.edu.au/policy/docs/gradeappeal/policy.html>

Complaint Management Procedure for Students and Members of the Public http://www.mq.edu.au/policy/docs/complaint_management/procedure.html

Disruption to Studies Policy (in effect until Dec 4th, 2017): http://www.mq.edu.au/policy/docs/disruption_studies/policy.html

Special Consideration Policy (in effect from Dec 4th, 2017): <https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policies/special-consideration>

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://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

- Ability to review current academic debates and identify research frontiers in environmental sciences
- Ability to contribute to academic discussion and to communicate research ideas in oral and written form

Assessment tasks

- 1 Understanding Research
- 3 Oral presentation

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

- Ability to reflect upon and identify the importance of environmental research
- Ability to review current academic debates and identify research frontiers in environmental sciences
- Develop a critical awareness of decision-making processes that shape how research is designed and data generated
- Develop skills in basic research design and in working with supervisors
- Awareness and appreciation for how different disciplines approach similar environmental research topics
- Ability to critically assess seminars and compare and contrast research approaches

Assessment tasks

- 2 Research Frontiers
- 3 Oral presentation
- 4 Seminar blog

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

- Ability to reflect upon and identify the importance of environmental research
- Ability to review current academic debates and identify research frontiers in environmental sciences
- Develop a critical awareness of decision-making processes that shape how research is designed and data generated
- Develop skills in basic research design and in working with supervisors
- Awareness and appreciation for how different disciplines approach similar environmental research topics
- Ability to critically assess seminars and compare and contrast research approaches

Assessment tasks

- 1 Understanding Research
- 2 Research Frontiers
- 4 Seminar blog

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

- Ability to reflect upon and identify the importance of environmental research
- Ability to review current academic debates and identify research frontiers in environmental sciences
- Develop a critical awareness of decision-making processes that shape how research is designed and data generated
- Develop skills in basic research design and in working with supervisors
- Awareness and appreciation for how different disciplines approach similar environmental research topics
- Ability to critically assess seminars and compare and contrast research approaches

Assessment task

- 2 Research Frontiers

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

- Develop skills in basic research design and in working with supervisors
- Ability to contribute to academic discussion and to communicate research ideas in oral and written form

Assessment tasks

- 1 Understanding Research
- 2 Research Frontiers
- 3 Oral presentation
- 4 Seminar blog

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

- Ability to reflect upon and identify the importance of environmental research
- Ability to contribute to academic discussion and to communicate research ideas in oral and written form

Assessment tasks

- 1 Understanding Research
- 3 Oral presentation
- 4 Seminar blog