



# ENVS834

## Environmental Research Report

S1 Evening 2017

*Dept of Environmental Sciences*

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#### **Disclaimer**

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## General Information

Unit convenor and teaching staff Vladimir Strezov <a href="mailto:vladimir.strezov@mq.edu.au">vladimir.strezov@mq.edu.au</a>
Credit points 4
Prerequisites (Admission to MEnv or MSc) and 16cp at 800 level
Corequisites
Co-badged status
Unit description ENVS834 Environmental Research Report is the independent research unit in which students conduct research on a specific topic within the subject area of environmental sciences. The identification of the subject is to be negotiated with the unit supervisor prior to commencement of the unit and a workplan signed by the student, supervisor and the Head of the Department. Students will work individually under the supervision of a member of staff and/or a suitably qualified external professional. With ENVS834 students will gain in-depth understanding of the research methods applied to the selected environmental science research subject, conduct research project through evaluation of published data or by conducting original experiments. The students will also present the research outcomes to audience specialised in the field.

## 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 design an individual research project

Develop understanding in specific experimental and/or analytical methods applicable for environmental science research

Collect experimental data by applying research methodology or gather the data from secondary published sources

Critically evaluate and synthesize the data to achieve the research objectives

Effectively communicate the scientific outcomes both verbally and in writing

Ability to scope a research project within budget allocation

## Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Review of research methods</u>	30%	No	Week 6 (3 April 2017)
<u>Presentation of project plan</u>	20%	No	Week 12 (29 May 2017)
<u>Research Report</u>	50%	No	Week 13 (5 June 2017)

### Review of research methods

Due: **Week 6 (3 April 2017)**

Weighting: **30%**

Students should select a topic for the environmental research report. In this assessment at least 3 different research techniques and methodologies used to conduct the research investigations for the topic of choice should be reviewed and compared. A 2,000 word assignment should be written which demonstrates the working principles of the selected methods.

The assessment criteria is:

Assessment criteria

Possible

Description

- *Clearly articulates aims and scope of review*
- *Accurately and succinctly describes objectives and outcomes of review literature*

20

Analysis

- *Contribution of reviewed literature*
- *Evidence evaluated critically*
- *Strengths and weaknesses clearly identified*

50

Presentation

- *Well-planned review with clear structure, sub-headings and logical argument firmly based on the literature cited*
- *Well written paper formatted for effective communication with correct grammar and spelling and correct use of professional terminology as appropriate*

- *Literature correctly cited and full bibliographic details provided*

30

Penalty: Late Submission (10% per day)

## **Section totals**

**100**

On successful completion you will be able to:

- Ability to design an individual research project
- Develop understanding in specific experimental and/or analytical methods applicable for environmental science research
- Critically evaluate and synthesize the data to achieve the research objectives
- Effectively communicate the scientific outcomes both verbally and in writing

## **Presentation of project plan**

Due: **Week 12 (29 May 2017)**

Weighting: **20%**

Individual 10 minute class presentations of the literature review and design of a 1 year original project plan, which will include a timeline and budget. The plan should contain justification of the selected methods and how they will be applied for the project timeline and a project budget of \$5,000. The students are expected to participate to the class discussions during the presentation night.

The assessment criteria is:

Assessment criteria

Possible

Project development

- *Quality of research and project development*
- *Appropriate justification of the budget*
- *Justification of the selected research methods*

15

Design, visual aids and presentation

- *Structure, logic, effectiveness and originality*
- *Clear text and illustrations*
- *Facing audience and presentation with impact*

3

Participation to class discussions

2

**Total**

**20**

On successful completion you will be able to:

- Ability to design an individual research project
- Develop understanding in specific experimental and/or analytical methods applicable for environmental science research
- Collect experimental data by applying research methodology or gather the data from secondary published sources
- Critically evaluate and synthesize the data to achieve the research objectives
- Effectively communicate the scientific outcomes both verbally and in writing
- Ability to scope a research project within budget allocation

## Research Report

Due: **Week 13 (5 June 2017)**

Weighting: **50%**

Students should select a research topic of choice, and perform original research or review of relevant state of information in peer-reviewed literature or high level scientific reports. The topic of choice can be based on a case study, evaluation of institutional practice, empirical investigation, or a critical review of the science, policy or practice by different institutions either nationally or globally.

The assessment criteria will be the same as in the Review of research methods assignment.

On successful completion you will be able to:

- Ability to design an individual research project
- Develop understanding in specific experimental and/or analytical methods applicable for environmental science research
- Collect experimental data by applying research methodology or gather the data from secondary published sources
- Effectively communicate the scientific outcomes both verbally and in writing

## Delivery and Resources

**Delivery**

Date	Time	Location	Session
27 February	6pm-8pm	C5A 404	Unit introduction Unit objectives and assessment Introduction principles to literature review
6 March	8pm	by email	Research topic selection
13 March to 3 April	by appointment	TBC	Consultation
3 April	8pm	iLearn	Assignment on review of research methods due
24 April to 26 May	by appointment	TBC	Consultation
29 May	6pm -8pm	C5A 404	Student presentations
29 May to 5 June			Independent research
5 June	8pm	iLearn	Research report assignment due

Students are expected to allocate 12 hours per week of their workload towards this unit to successfully deliver the assignments.

Students are free to make appointment any time for discussion.

## Resources

Students are expected to source original peer-reviewed literature relevant for their topic of choice for the methodological review and research report. The databases used to search literature are:

Macquarie University Library <http://multisearch.mq.edu.au/>

ISI Web of Knowledge <http://isiknowledge.com/>

Scopus <http://www.scopus.com/home.url>

Science Direct <http://www.sciencedirect.com/science>

Google Scholar <https://scholar.google.com.au/>

Example journals where high impact articles in the discipline of environmental sciences are published:

Environmental Science and Technology

Environmental Health Perspectives

Remote Sensing of Environment

Energy and Environmental Science

Global Environmental Change

Science of the Total Environment

Environmental Pollution

Atmospheric Environment

Journal of Environmental Management

Environment International

Environmental Research Letters

Frontiers in Ecology and the Environment

International Journal of Environmental Research and Public Health

## 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](http://mq.edu.au/policy/docs/academic_honesty/policy.html)

Assessment Policy [http://mq.edu.au/policy/docs/assessment/policy\\_2016.html](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](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](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/](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](http://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](http://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](http://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/](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 design an individual research project
- Critically evaluate and synthesize the data to achieve the research objectives
- Ability to scope a research project within budget allocation



## 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 design an individual research project
- Develop understanding in specific experimental and/or analytical methods applicable for environmental science research
- Collect experimental data by applying research methodology or gather the data from secondary published sources

## 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 design an individual research project
- Develop understanding in specific experimental and/or analytical methods applicable for environmental science research
- Collect experimental data by applying research methodology or gather the data from secondary published sources
- Critically evaluate and synthesize the data to achieve the research objectives

## 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 design an individual research project
- Develop understanding in specific experimental and/or analytical methods applicable for

environmental science research

- Collect experimental data by applying research methodology or gather the data from secondary published sources
- Critically evaluate and synthesize the data to achieve the research objectives

## 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 outcome**

- Effectively communicate the scientific outcomes both verbally and in writing

## 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**

- Effectively communicate the scientific outcomes both verbally and in writing
- Ability to scope a research project within budget allocation