



ENVS362

Environmental Management

S2 Day 2017

Dept of Environmental Sciences

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Disclaimer

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General Information

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Credit points

3

Prerequisites

39cp at 100 level or above including [(ENV267 or GEOS267 or ENVE214 or ENV5214) and (3cp in ENV or ENVE or ENVG or ENV5 or GEOP units at 300 level)]

Corequisites

Co-badged status

Unit description

This unit provides an advanced understanding of the interdisciplinary links between environmental research, management strategies and policy frameworks that are fundamental to environmental management. We explore significant issues and challenges associated with managing our dynamic environment, including catchment assessment and prioritisation, river and wetland rehabilitation, land degradation and recovery, coastal erosion, atmospheric pollution, climate change, and variability. To emphasise practical applications and outcomes, the unit includes a field visit to sites of environmental importance in the Sydney region and students develop skills in environmental impact assessment and professional literacy that are designed to enhance employability.

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:

Identify and define the key terms, concepts and approaches in environmental management.

Review and understand the principal threats to environmental systems and key approaches to environmental management.

Interpret and communicate complex issues in environmental management and match appropriate management strategies to particular environmental settings and problems.

Utilise maps, graphs, statistics and text to construct, analyse and interpret information related to environmental management.

Articulate current and future strategies to meet the needs of environmental management in Australia.

Write for a target audience and critically read, think about, interpret and evaluate environmental and social science data.

Assessment Tasks

Name	Weighting	Hurdle	Due
REF 1: Proposal and policy	20%	Yes	3/9/2017
REF 2: Site and impacts	30%	No	1/10/2017
Regional air quality report	25%	No	29/10/2017

Name	Weighting	Hurdle	Due
Water quality monitoring	25%	No	19/11/2017

REF 1: Proposal and policy

Due: **3/9/2017**

Weighting: **20%**

This is a hurdle assessment task (see [assessment policy](#) for more information on hurdle assessment tasks)

Submit online through turnitin

The Assessment Tasks for ENV362 are based on sections of a "Review of Environmental Factors" (REF). An REF is an Environmental Impact Assessment for activities that are proposed to take place on land reserved under the NSW National Parks and Wildlife Act (1974). The NSW OEH has a template for all REFs which the 4 four assessment tasks for ENV362 are based on.

Using the OEH REF framework explained in lectures and the pracs, Assessment Task 1 requires you to complete sections 1, 2, 3, 6, 7 and 10 of the OEH REF. These sections include a description of the proposed activity, information about relevant legislation and review of alternatives.

On successful completion you will be able to:

- Identify and define the key terms, concepts and approaches in environmental management.
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- Interpret and communicate complex issues in environmental management and match appropriate management strategies to particular environmental settings and problems.
- Utilise maps, graphs, statistics and text to construct, analyse and interpret information related to environmental management.
- Write for a target audience and critically read, think about, interpret and evaluate environmental and social science data.

REF 2: Site and impacts

Due: **1/10/2017**

Weighting: **30%**

Submit online through turnitin

Assessment Task 2 required you to complete the remainder of the core areas of the REF template which includes Sections 4, 5, 8, 9 and 11. These sections require a:

1. Description of the hypothetical Browns Waterhole Track Upgrade site

2. GIS map of location (REF Supporting document)
3. Environmental Impact statement, and
4. Social survey (REF supporting document)

On successful completion you will be able to:

- Identify and define the key terms, concepts and approaches in environmental management.
- Review and understand the principal threats to environmental systems and key approaches to environmental management.
- Interpret and communicate complex issues in environmental management and match appropriate management strategies to particular environmental settings and problems.
- Utilise maps, graphs, statistics and text to construct, analyse and interpret information related to environmental management.
- Articulate current and future strategies to meet the needs of environmental management in Australia.
- Write for a target audience and critically read, think about, interpret and evaluate environmental and social science data.

Regional air quality report

Due: **29/10/2017**

Weighting: **25%**

For this Assessment Task you are required to compile a regional Air Quality report for the hypothetical Browns Waterhole Track Upgrade site. Further details will be provided later in the Semester.

On successful completion you will be able to:

- Identify and define the key terms, concepts and approaches in environmental management.
- Review and understand the principal threats to environmental systems and key approaches to environmental management.
- Interpret and communicate complex issues in environmental management and match appropriate management strategies to particular environmental settings and problems.
- Utilise maps, graphs, statistics and text to construct, analyse and interpret information related to environmental management.
- Articulate current and future strategies to meet the needs of environmental management

in Australia.

- Write for a target audience and critically read, think about, interpret and evaluate environmental and social science data.

Water quality monitoring

Due: **19/11/2017**

Weighting: **25%**

Submit online through turnitin

Assessment Task 4 requires you to: design your own water quality monitoring program for the hypothetical Browns Waterhole Track Upgrade, collect data and conduct analyses. You are required to submit a "community information" report about this monitoring program and your findings. Further details will be provided in later lectures and pracs.

You also need to finalise the REF, including sections 12 (Summary of Impacts) and 13 (conclusions).

On successful completion you will be able to:

- Identify and define the key terms, concepts and approaches in environmental management.
- Review and understand the principal threats to environmental systems and key approaches to environmental management.
- Interpret and communicate complex issues in environmental management and match appropriate management strategies to particular environmental settings and problems.
- Utilise maps, graphs, statistics and text to construct, analyse and interpret information related to environmental management.
- Articulate current and future strategies to meet the needs of environmental management in Australia.
- Write for a target audience and critically read, think about, interpret and evaluate environmental and social science data.

Delivery and Resources

Delivery

Classes

The timetable for ENV362 can be found at: <https://timetables.mq.edu.au/> A detailed class schedule with lecture and practical topics will be made available to all enrolled students through iLearn.

ENV362 is taught via lectures, practicals, field trips, readings and assessment tasks. Students should make use of iLearn to access teaching and learning materials, to submit assignments, to

stay in touch with the unit, to contact lecturers, and to discuss issues and concepts with classmates.

Workload

ENVE362 earns 3 credit points towards your degree. University guidelines state that this will involve at least 3 hours per week, per credit point. Therefore, for a 3 credit point unit you are expected to put in at least 9 hours of study per week on average over the semester; around 135 hours in total. This requires planning on your part to do all the work required in lectures, practicals, assignments, and the readings.

Resources

iLearn

The ENV362 iLearn page can be found at: <https://ilearn.mq.edu.au/login/MQ/>

Information about how students can access iLearn can be found at: http://www.mq.edu.au/iLearn/student_info/index.htm

The iLearn page uses Macquarie University's standard interface and has links, discussion threads and access to lectures (as audio files through Echo360, and as downloadable PDF presentations) and practical material. Important announcements will be made through iLearn, so please check the ENVE362 page regularly.

Echo360

Information about how to access lecture recordings through the Echo360 EchoCenter page in iLearn can be found at: http://mq.edu.au/iLearn/student_info/lecture_recordings.htm

Turnitin

Macquarie University promotes student awareness of information management and information ethics. As well as training and the provision of information, the University tackles the issue of academic honesty through the use of the online program Turnitin.

Information about how to submit assignments to Turnitin in iLearn can be found at: http://mq.edu.au/iLearn/student_info/assignments.htm

As well as being a key tool for assignment submission, marking and feedback, Turnitin compares your work with the work of your classmates, with previous students from Macquarie and other universities, with material available on the Internet, and with freely available and subscription based electronic journals. The results are sent only to your lecturers, who will analyse them in reference to the University's Academic Honesty Policy.

You will be able to access the results of the Turnitin academic honesty scan for your own assignments, known as your 'originality report'. In ENVE362, we will allow you to overwrite the initial submission file with a second submission if you choose to do so, but only up until the final due date and time for the assignment. We consider this opportunity to fine-tune your academic honesty a considerable resource, and we hope that you will use this review process constructively to ensure you are referencing other material correctly and effectively.

Recommended Texts

There is no prescribed textbook for ENV5362, however, you are expected to complete the weekly readings and the following books may be of particular interest:

- Allan, C. and Stankey, G.H. (Eds.) 2009. Adaptive Environmental Management: A Practitioner's Guide. Springer, New York, and CSIRO Publishing.
- Conacher, A. and Conacher, J. 2000. Environmental Planning and Management in Australia. Oxford University Press, U.K.
- Dovers, S. and Wild River, S. (Eds.) 2003. Managing Australia's Environment. The Federation Press, Leichhardt, New South Wales.
- Burns, E., D. Lindenmayer, A. Lowe and N. Thurgate (Eds). 2014. Biodiversity and Environmental Change: Monitoring, Challenges and Direction, CSIRO Publishing.
- Hay, I. 2012. Communicating in Geography and the Environmental Sciences (Fourth Edition). Oxford University Press, Melbourne.
- Keen, M., V. A. Brown and R. Dyball. 2005. Social learning in environmental management: towards a sustainable future, Routledge.

The following journals may also be particularly useful:

- *Journal of Environmental Management*
- *Australasian Journal of Environmental Management*
- *Environment International*
- *Ecological Management and Restoration*
- *Air Quality and Climate Change*

Also check out the following websites for the latest information on global and Australian environments and their management:

- Australia State of the Environment 2016. Available online at <http://www.environment.gov.au/soe/index.html>
- Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services <http://www.ipbes.net/about-us>
- United Nations Environment Program <http://www.unep.org>

Unit Schedule

ENV5362 relies on a structured program that links lectures to practicals, field work and assessment asks to facilitate your learning, skill development and critical thinking. The Unit schedule is provided in the table below. Full details will be provided on iLearn.

Students must attend two lectures and one practical per week (Note: there are no practicals in Weeks 1).

In four of the practical classes students will meet at the northern end of Vimiera Road to visit the ENV5362 Study Site "Browns Waterhole Track". Throughout the semester we will build up knowledge about management of this site based on a hypothetical upgrade to the Browns Waterhole Track crossings. The four assessment tasks are based on requirements of the NSW Office of Environment and Heritage (OEH) for a Review of Environmental Factors (REF) for "activities" on land under the NSW Parks and Wildlife Act (1974). Use of a mock proposed "activity" (ie the crossing upgrades) will require you to understand contemporary Environmental Law and Planning, the socio-economics of environmental management, the importance of biophysical monitoring and reporting, and how this can work to ensure Integrated and Adaptive Management of a site.

For external students all practical classes (and field work) will be run over 2 on-campus sessions.

Wk	Lecture Dates	Lecture Topics (Mon 4-6pm) E7B 100 Theatre	Practical Classes (M 2-4; T 11-1; W 10-12) * Browns Waterhole Track Field site visit. Meet at Nth end of Vimiera Rd, Marsfield	Assessment Tasks and External Sessions
Introduction (EE)				
1	31 July	L1 Introduction to ENV5362 L2 Contexts, challenges and careers in environmental management	No practical classes	
2	7 Aug	L3 Conservation vs. rehabilitation L4 Global Biodiversity and Ecosystem Health	P1 Browns Waterhole Track mapping (GIS)	
Environmental Planning and Assessment (PD)				
3	14 Aug	L5 Strategic Environmental Planning L6 Biodiversity Law and Planning	P2 What is a REF? Biodiversity desktop research	
4	21 Aug	L7 Urban Water Planning L8 Mining and land-use planning	P3* Site inspection Browns Waterhole Track upgrade	External Session 1: Pracs 1-6; 9am-5pm, Sat 26 Aug
5	28 Aug	L9 Development applications and assessment L10 Environmental governance	P4 Work on REF Assessment Task 1 in class	ASSESSMENT TASK 1 DUE (20%) 10pm Sun 3 Sept
Socio-economics of Environmental Management (EE)				

6	4 Sept	L11 The importance of people in Environmental Management L12 Cross-cultural environmental management	P5* Aboriginal cultural heritage site inspection and track mapping (GPS)	
7	11 Sept	L13 Methods of community consultation L14 Market-based initiatives	P6 Adding GPS data to map; design social impact survey	ASSESSMENT TASK 2 DUE (30%) 10pm, Sun 1 Oct
Mid-Semester Break				
Atmospheric Management (GE)				
8	2 Oct Pb Hol	L15 Atmospheric module introduction L16 Atmospheric concepts	P7 Air pollution monitoring networks	
9	9 Oct	L17 A sustainable atmosphere L18 Air pollution issues	P8 Tools for working with air quality data	
10	16 Oct	L19 Air quality management L20 Agricultural pollution management case studies	P9 Visit new OEH air quality station on campus	ASSESSMENT TASK 3 DUE (25%) 10pm, Sun 29 Oct
Biophysical Monitoring, Evaluation, Reporting (KT)				
11	23 Oct	L21 Why monitor? L22 Water quality monitoring: what, where, when, how, why?	P10 Design a spatial water quality monitoring program	External Session 2: Pracs 7-12; 9am-5pm, Sat 4 Nov
12	30 Oct	L23 Methods of analysis and reporting L24 Evaluation and Reporting	P11* Water quality testing Browns Waterhole Track	
Synthesis (KT)				
13	6 Nov	L25 Linking monitoring to management L26 Synthesis and feedback	P12 Water quality data analysis and reporting	ASSESSMENT TASK 4 DUE (25%) 10pm, Sun 19 Nov

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

Creative and Innovative

Our graduates will also be capable of creative thinking and of creating knowledge. They will be imaginative and open to experience and capable of innovation at work and in the community. We want them to be engaged in applying their critical, creative thinking.

This graduate capability is supported by:

Learning outcomes

- Utilise maps, graphs, statistics and text to construct, analyse and interpret information related to environmental management.
- Articulate current and future strategies to meet the needs of environmental management in Australia.
- Write for a target audience and critically read, think about, interpret and evaluate environmental and social science data.

Assessment tasks

- REF 1: Proposal and policy
- Water quality monitoring

Capable of Professional and Personal Judgement and Initiative

We want our graduates to have emotional intelligence and sound interpersonal skills and to demonstrate discernment and common sense in their professional and personal judgement. They will exercise initiative as needed. They will be capable of risk assessment, and be able to handle ambiguity and complexity, enabling them to be adaptable in diverse and changing environments.

This graduate capability is supported by:

Learning outcomes

- Review and understand the principal threats to environmental systems and key approaches to environmental management.
- Utilise maps, graphs, statistics and text to construct, analyse and interpret information related to environmental management.

- Articulate current and future strategies to meet the needs of environmental management in Australia.
- Write for a target audience and critically read, think about, interpret and evaluate environmental and social science data.

Assessment tasks

- REF 1: Proposal and policy
- REF 2: Site and impacts
- Regional air quality report
- Water quality monitoring

Commitment to Continuous Learning

Our graduates will have enquiring minds and a literate curiosity which will lead them to pursue knowledge for its own sake. They will continue to pursue learning in their careers and as they participate in the world. They will be capable of reflecting on their experiences and relationships with others and the environment, learning from them, and growing - personally, professionally and socially.

This graduate capability is supported by:

Learning outcomes

- Identify and define the key terms, concepts and approaches in environmental management.
- Review and understand the principal threats to environmental systems and key approaches to environmental management.
- Interpret and communicate complex issues in environmental management and match appropriate management strategies to particular environmental settings and problems.
- Utilise maps, graphs, statistics and text to construct, analyse and interpret information related to environmental management.
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Assessment tasks

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- REF 2: Site and impacts
- Regional air quality report
- Water quality monitoring

Discipline Specific Knowledge and Skills

Our graduates will take with them the intellectual development, depth and breadth of knowledge, scholarly understanding, and specific subject content in their chosen fields to make them competent and confident in their subject or profession. They will be able to demonstrate, where relevant, professional technical competence and meet professional standards. They will be able to articulate the structure of knowledge of their discipline, be able to adapt discipline-specific knowledge to novel situations, and be able to contribute from their discipline to inter-disciplinary solutions to problems.

This graduate capability is supported by:

Learning outcomes

- Identify and define the key terms, concepts and approaches in environmental management.
- Review and understand the principal threats to environmental systems and key approaches to environmental management.
- Interpret and communicate complex issues in environmental management and match appropriate management strategies to particular environmental settings and problems.
- Utilise maps, graphs, statistics and text to construct, analyse and interpret information related to environmental management.
- Articulate current and future strategies to meet the needs of environmental management in Australia.

Assessment tasks

- REF 1: Proposal and policy
- REF 2: Site and impacts
- Regional air quality report
- Water quality monitoring

Critical, Analytical and Integrative Thinking

We want our graduates to be capable of reasoning, questioning and analysing, and to integrate and synthesise learning and knowledge from a range of sources and environments; to be able to critique constraints, assumptions and limitations; to be able to think independently and systemically in relation to scholarly activity, in the workplace, and in the world. We want them to have a level of scientific and information technology literacy.

This graduate capability is supported by:

Learning outcomes

- Identify and define the key terms, concepts and approaches in environmental management.

- Review and understand the principal threats to environmental systems and key approaches to environmental management.
- Interpret and communicate complex issues in environmental management and match appropriate management strategies to particular environmental settings and problems.
- Utilise maps, graphs, statistics and text to construct, analyse and interpret information related to environmental management.
- Articulate current and future strategies to meet the needs of environmental management in Australia.
- Write for a target audience and critically read, think about, interpret and evaluate environmental and social science data.

Assessment tasks

- REF 1: Proposal and policy
- REF 2: Site and impacts
- Regional air quality report
- Water quality monitoring

Problem Solving and Research Capability

Our graduates should be capable of researching; of analysing, and interpreting and assessing data and information in various forms; of drawing connections across fields of knowledge; and they should be able to relate their knowledge to complex situations at work or in the world, in order to diagnose and solve problems. We want them to have the confidence to take the initiative in doing so, within an awareness of their own limitations.

This graduate capability is supported by:

Learning outcomes

- Identify and define the key terms, concepts and approaches in environmental management.
- Review and understand the principal threats to environmental systems and key approaches to environmental management.
- Interpret and communicate complex issues in environmental management and match appropriate management strategies to particular environmental settings and problems.
- Utilise maps, graphs, statistics and text to construct, analyse and interpret information related to environmental management.
- Articulate current and future strategies to meet the needs of environmental management in Australia.
- Write for a target audience and critically read, think about, interpret and evaluate environmental and social science data.

Assessment tasks

- REF 1: Proposal and policy
- REF 2: Site and impacts
- Regional air quality report
- Water quality monitoring

Effective Communication

We want to develop in our students the ability to communicate and convey their views in forms effective with different audiences. We want our graduates to take with them the capability to read, listen, question, gather and evaluate information resources in a variety of formats, assess, write clearly, speak effectively, and to use visual communication and communication technologies as appropriate.

This graduate capability is supported by:

Learning outcomes

- Review and understand the principal threats to environmental systems and key approaches to environmental management.
- Interpret and communicate complex issues in environmental management and match appropriate management strategies to particular environmental settings and problems.
- Utilise maps, graphs, statistics and text to construct, analyse and interpret information related to environmental management.
- Articulate current and future strategies to meet the needs of environmental management in Australia.
- Write for a target audience and critically read, think about, interpret and evaluate environmental and social science data.

Assessment tasks

- REF 2: Site and impacts
- Regional air quality report
- Water quality monitoring

Engaged and Ethical Local and Global citizens

As local citizens our graduates will be aware of indigenous perspectives and of the nation's historical context. They will be engaged with the challenges of contemporary society and with knowledge and ideas. We want our graduates to have respect for diversity, to be open-minded, sensitive to others and inclusive, and to be open to other cultures and perspectives: they should have a level of cultural literacy. Our graduates should be aware of disadvantage and social justice, and be willing to participate to help create a wiser and better society.

This graduate capability is supported by:

Learning outcomes

- Identify and define the key terms, concepts and approaches in environmental management.
- Review and understand the principal threats to environmental systems and key approaches to environmental management.
- Interpret and communicate complex issues in environmental management and match appropriate management strategies to particular environmental settings and problems.
- Articulate current and future strategies to meet the needs of environmental management in Australia.
- Write for a target audience and critically read, think about, interpret and evaluate environmental and social science data.

Assessment tasks

- REF 1: Proposal and policy
- REF 2: Site and impacts
- Regional air quality report
- Water quality monitoring

Socially and Environmentally Active and Responsible

We want our graduates to be aware of and have respect for self and others; to be able to work with others as a leader and a team player; to have a sense of connectedness with others and country; and to have a sense of mutual obligation. Our graduates should be informed and active participants in moving society towards sustainability.

This graduate capability is supported by:

Learning outcomes

- Identify and define the key terms, concepts and approaches in environmental management.
- Review and understand the principal threats to environmental systems and key approaches to environmental management.
- Interpret and communicate complex issues in environmental management and match appropriate management strategies to particular environmental settings and problems.
- Articulate current and future strategies to meet the needs of environmental management in Australia.
- Write for a target audience and critically read, think about, interpret and evaluate environmental and social science data.

Assessment tasks

- REF 1: Proposal and policy
- REF 2: Site and impacts
- Regional air quality report
- Water quality monitoring

Changes since First Published

Date	Description
04/08/2017	Unit Guide final