



ENV 267

Australian Environmental Futures

S2 External 2015

Dept of Environmental Sciences

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Disclaimer

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General Information

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Credit points

3

Prerequisites

GEOS114(P) or ENV118(P) or GEOS118(P)

Corequisites

Co-badged status

ENVG605 Special Topic in Environment D: Australian Environmental Futures

Unit description

This interdisciplinary unit introduces and critically examines key environmental, social, economic, cultural and political processes and relationships that underpin environmental management and sustainability in urban, rural and remote Australia. Vital environmental and social issues, including water security, land and ecosystem conservation, population growth, urban development, and climate variability and environmental change, are considered in the context of integrated and adaptive approaches to management at a range of scales. The unit also explores fundamental concepts such as environmental justice, governance, decision making, and system connectivity, and encourages students to discover more about the past and present in order to contribute to improved environmental futures.

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:

- Have a broad knowledge of some of the contemporary contexts, issues and tools associated with environmental management.

- Be able to think about environmental management from both global and Australian perspectives.

- Have acquired an integrated (biophysical and social) approach to environmental management.

- Be prepared and able to respond to the diverse perspectives and approaches relating to environmental management.

- Appreciate the very recent nature of environmental management issues, how these continue to evolve, and the ability to think about how they may unfold in future.

- Learn how to carry out independent research in environmental management and the practical applications of that research.

- Help prepare students for a professional career in this field, or an ability to apply their understanding of environmental management to whatever career they choose to pursue in future, as well as in their daily lives.

General Assessment Information

SUBMISSION REQUIREMENTS

All assignments are to be submitted via Turnitin, the university online submission and marking system - found as a link in iLearn. Turnitin includes Grademark, a paperless grading system where your assignments are marked by staff online. Submissions are also checked for

plagiarism by Turnitin. Turnitin automatically compares your work to the work of your classmates, previous students and material available on the internet. Hard copies of assignments are no longer accepted and will not be marked.

For more information on Turnitin and Grademark:

http://mq.edu.au/iLearn/student_info/assignments.htm

DEADLINES, EXTENSIONS AND PENALTIES

Deadlines set for assignment submissions will not be altered except in exceptional circumstances. In all cases, extensions must be applied for before the due date and must be supported with appropriate documentation (medical certificate, counsellor's certificate, statutory declaration). Where an unavoidable disruption warrants an extension, you may also wish to consider applying for Disruption to Studies. Requests for disruption to studies are submitted via ask.mq.edu.au. Instructions on how to submit your disruption to studies request can be found here: <http://ask.mq.edu.au/kb.php?record=ce7c4e38-4f82-c4d7-95b1-4e2ee8fd075f>

Extensions will not be granted in cases of poor time management. Only the Unit Convenor can authorise extensions. Late submissions will not be accepted once marked assignments have been returned unless otherwise approved by the Unit Convenor.

Late assignments will incur a late penalty of 10% of the total mark per day. Weekends will be counted as 2 days. Students who fail to complete and submit ALL assignments and sit exams for the Unit WILL FAIL THE UNIT (i.e. all assignment task must be completed as a minimum prerequisite to pass the Unit). Penalties will also be incurred for plagiarism, that is, the use of another persons' work and presentation as your own (see University Policies and http://www.mq.edu.au/policy/docs/academic_honesty/policy.html).

GRADING

Each assignment will be marked, commented upon and returned to you via Turnitin and Grademark. Grading is conducted in line with the universities grading policy (<http://www.mq.edu.au/policy/docs/grading/policy.html>)

Assessment Tasks

Name	Weighting	Due
<u>Tutorial Participation</u>	10%	Weeks 2 - 12 tutorial sessions
<u>Sustainability Essay</u>	20%	9am, Thurs, 27th August 2015
<u>Environmental Report</u>	20%	9am, Monday 12th October 2015
<u>Oral Presentation</u>	10%	Weeks 10-12 tutorial sessions
<u>Exam</u>	40%	TBA

Tutorial Participation

Due: **Weeks 2 - 12 tutorial sessions**

Weighting: **10%**

TASK

Attend all tutorials, read the assigned readings and participate in group discussion

Attendance will be recorded for all tutorial sessions. If you attend less than 80% of the tutorial sessions marks will be deducted. For each week's tutorial you need to read the assigned readings (usually one to three), which are the basis of group discussions and other tutorial activities. Your performance will be assessed using a simple marking sheet that indicates the strength of your contributions. External students will be marked based on the strength of their contributions to online discussions and activities.

Tutorial participation includes listening to your classmates' presentations in tutorial sessions in weeks 10-12 and asking them questions about their presentation.

On successful completion you will be able to:

- Be able to think about environmental management from both global and Australian perspectives.
- Have acquired an integrated (biophysical and social) approach to environmental management.
- Be prepared and able to respond to the diverse perspectives and approaches relating to environmental management.
- Appreciate the very recent nature of environmental management issues, how these continue to evolve, and the ability to think about how they may unfold in future.

Sustainability Essay

Due: **9am, Thurs, 27th August 2015**

Weighting: **20%**

Word length: **1,500** (excluding references)

BACKGROUND

This unit will provide students with background on the environmental context of the Australian continent, as well as concepts such as 'sustainability', 'conservation', 'climate change', and 'environmental justice' and will introduce a range of environmental issues and tools. Building on this the first assessment task presents students with the opportunity to carry out independent research and review an environmental management case study in which they take personal interest. In particular, students have the chance to critically use their understanding of the environmental management contexts and issues in order to analyse the success, or potential for success, of a specific sustainability initiative in Australia.

ESSAY QUESTION

Choose an Australian-based sustainability initiative as a case study, and discuss the decision-making processes involved in its design and implementation. This will include identification of various stakeholders and an analysis of their relationships. In your conclusion, based on your understanding of the concept of 'sustainability', please address the level of success to date, or potential for success, of the project.

CHOOSING AN INITIATIVE

Each student within a tutorial group must have a different case study. This means that students must let their tutor know what their preferred project is as soon as possible to ensure they get their first preference.

At present there are various 'sustainability' projects across Australia. Students are encouraged to look at a number of examples before choosing a specific case for their essay. To help get things started, a number of suggestions have been listed below. Students are welcome to use one of these for the assignment, as long as they are the first in their tutorial to pick that case study. This list, however, is by no means definitive. Students are recommended to investigate other projects in which they take a personal interest.

Ideas for a case study can also come from some of the examples mentioned in lectures and tutorials, from course readings, from your general knowledge, news excerpts or web searches. You should take advantage of the freedom offered here to focus on something that really interests you and/or will be useful for your future study, portfolio, career and so on. When you have an idea about what your case study may be, you will need to do some research to learn more about the decision-making processes surrounding the case study and then you need to make a decision as to if you have enough reliable information with which to write your essay. If not, either look for more data or try a different case study.

Note: a number of these projects are very large in scope, making it difficult to cover all aspects in a 1,500 word assignment. For example, the sustainability program at Macquarie University (Sustainability@MQ) includes: fair trade, biodiversity, energy and emissions, transport, waste, and water. Similarly, Sustainable Sydney 2030 has a number of 'directions'. Students are asked to choose one particular dimension of the plan (i.e. biodiversity for the program at Macquarie, or transport for the Sustainable Sydney 2030 project) so that focused assessment and analysis can take place in the essay.

Examples of sustainability initiatives:

1. Sustainable Sydney 2030: <http://www.sydney2030.com.au>
2. Chippendale Road Gardens Project: <http://sustainablehouse.com.au/tag/road-gardens/>
3. Permaculture Sydney North: <http://permaculturenorth.org.au/>
4. Rouse Hill Town Centre: <http://www.rhtc.com.au/>
5. Sustainable Farm Families: <http://www.farmerhealth.org.au/sustainable-farm-families/sff-programs>
6. Sustainable Forest Management (Forestry Tasmania): <http://www.forestrytas.com.au/sfm>

7. Cook's River Sustainability Initiative: <http://cooksriver.org.au>
8. Sustainability@MQ: <http://www.mq.edu.au/sustainability/>

UNDERTAKING RESEARCH

To be able to formulate an argument you need to conduct research. This will involve gathering data from secondary sources (things that other people have written) and should at the minimum include:

- General literature on decision-making processes and stakeholders;
- Specific literature on your case study.

Please take advantage of the references given in the unit guide and during lectures, but you will be particularly expected to develop your research skills by finding your own journal articles, book chapters, books and other references. Notes on doing research and writing (Writing and Literacy Information) will be addressed in the tutorials and made available in electronic format to all students on iLearn. These resources will help take you through the research process and enable you to prepare for the writing of the essay.

EVALUATION

Marking criteria for the essay will be provided in the first few weeks of the semester. In your essay you need to formulate an argument in relation to the case study you have undertaken. Based on the evidence from your research, and your understanding of 'sustainability', do you think that the project has demonstrated a high level of success? Shows potential for success? Has not been very successful at all? What does success mean in the context of sustainability and different stakeholder perspectives? Whatever your argument is, you must also explain why. For example, do you consider the project unsuccessful because it has failed to consider the various stakeholders who may be affected by its implementation? The argument needs to be stated within the introduction, and it needs to be backed up with evidence in the body of the essay. Further, the argument needs to be revisited in the conclusion of your essay.

As part of your answer you will be analysing the power relationships that exist in and around your case study and environmental management. This will involve thinking about what the decision-making processes are, who the stakeholders are, how they do (or don't) participate in the process and the relationship between scientific knowledge and other forms of knowledge.

Remember:

- Before you start writing read the notes on doing research provided;
- Be critical of material provided on the web in terms of its reliability and its potential bias;
- Your conclusion should restate your key points / arguments and should not introduce new material.

SUGGESTED READING

There are various literary sources which might be of use and interest. Below is a list to help get things started; however, students will be required to investigate additional references that will support the main argument (s) of their essay. Students should make a particular effort to

research their specific case study.

Aplin, G. (2002) *Australians and their Environment: an introduction to environmental studies*, 2nd edition, Oxford University Press, Melbourne (especially Chapter 4).

Archer, M. and Beale, M. (2004) 'The big smoke' in *Going native: living in the Australian environment*, Hodder, Sydney, pp.306-338.

Barton, H. and Kleiner, D. (2000) 'Innovative Eco-neighbourhood projects,' in Barton, H. (Ed.), *Sustainable communities: the potential for eco-neighbourhoods*, Earthscan, London, pp. 66-85.

Becker, J. (2005) Measuring progress towards sustainable development: an ecological framework for setting indicators. *Local Environment* 10(1): 87-101.

Buhrs, T. and G. Aplin (1999) Pathways towards sustainability: the Australian Approach, *Journal of Environmental Planning and Management* 42(3): 315-340.

Cook, Don (2003) 'Human interactions are crucial for sustainable development,' Guest Editorial in *Environmental Health Perspectives*, Vol.111, Iss.16, pp. 864-865.

Dovers, Stephen R. (1997) 'Sustainability: demands on policy,' *Journal of Public Policy*, Vol.16, No.3, pp. 303-318.

Dovers, S. (2001) *Institutions for Sustainability*, Tela (7). Australian Conservation Foundation. Available online http://www.acfonline.org.au/default.asp?section_id=124

Ellway, C., Murphy, G., Merton, L, Baumgartner, D., and Hempseed, A. (2002) 'Opportunities for sustainable riverine management in the Queensland Murray Darling Basin,' *Water, Science, and Technology*, Vol. 45, No. 11, pp. 201-208.

Fearon, R. (2003) 'Linking stakeholders and decision-makers with science in managing the coastal water environment: case studies from urban, industrial and rural subtropical catchments in Australia,' *Water Science and Technology*, Vol. 47, No.6, pp.179-184.

Howe, J., K. Bohn, et al. (2005). *Continuous Productive Urban Landscapes: Designing Urban Agriculture for Sustainable Cities*. Oxford Architectural Press.

Howitt, R. (2001). *Rethinking Resource Management: Justice, Sustainability and Indigenous peoples*. New York:, Routledge.

Ikeme, J. (2003) Equity, environmental justice and sustainability: incomplete approaches in climate change politics. *Global Environmental Change* 13: 195-206.

Lehtonen, M. (2004) The environmental–social interface of sustainable development: capabilities, social capital, institutions. *Ecological Economics* 49: 199-214.

Margerum, Richard D. (2007) 'Overcoming locally based collaboration constraints,' *Society and natural resources*, Vol.20, Iss.2, pp. 135-152.

McManus, P. (2005). *Vortex Cities to Sustainable Cities: Australia's Urban Challenge*. Sydney, UNSW Press.

Morrison, T. H., G. T. McDonald and M. B. Lane (2004) Integrating Natural Resource Management for Better Environmental Outcomes. *Australian Geographer* 35(3): 243-258.

Newton, John. (2008) 'Brave new world,' in The Sydney Morning Herald (The Sydney Magazine), August 28th, 2008.

Rudlin, D and Falk, N. (1999) Building the 21st Century home: the sustainable urban Neighbourhood, Architectural Press, Oxford.

Taplin, R. (1999) 'Sydney: sustainable city?' in Walker, K. and Crowley, K. (Eds.), Australian environmental policy 2: studies in decline and devolution, Sydney, UNSW Press, pp.166-185.

Walmsley, J. J. (2002) Framework for Measuring Sustainable Development in Catchment Systems. Environmental Management 29(2): 195-206.

White, S., Noble, K. and Chong, J. (2008) Reform, Risk and Reality: Challenges and Opportunities for Australian Urban Water Management. The Australian Economic Review, 41(4): 428-34.

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Environmental Report

Due: **9am, Monday 12th October 2015**

Weighting: **20%**

Word length: **2,500** (including tables but excluding abstract/executive summary and references)

BACKGROUND

An important aspect of environmental management is the ability to write a report which identifies scientific and environmental issues, the stakeholders involved, existing conditions, compounding factors, and potential outcomes of decisions and management approaches. This second assignment in ENV267 therefore aims to develop your environmental analysis and report writing skills through the use of independent research and assessment of environmental management,

monitoring and planning strategies.

REPORT TASK

You are required to write an environmental report which focuses on the reduction of the Ecological Footprint (EF) of your allocated Macquarie University Faculty (Arts, Science, Human Sciences or Business and Economics). Specifically, you will utilise the online campus eco-footprinting calculator to aid you in creating and evaluating possible environmental management scenarios for this Faculty. Your report will outline your recommended sustainability strategy in order for this Faculty to assist Macquarie University in achieving its goal of 'One planet by 2030'. This will involve presenting arguments for why you choose the presented strategy, compared to other options (scenarios) you have explored using the online calculator – the argument should consider social, economic and environmental implications of your strategy.

A scientific report is a structured presentation of information arranged and interpreted for a particular purpose. Reports follow a theme or line of argument through the provision of fact-based information, analysis of data and/or the making of recommendations. For this assignment you will need to write a report which provides information on the background of the environmental issue (ecological overshoot, increasing population and so on), a brief overview, justification and evaluation of your scenarios and how your recommended strategy (2 or 3 scenarios) will be implemented. In this report you will need to discuss some of the factors that affect the Faculty and evaluate these critically. A report which simply provides an array of data is inadequate, unless it addresses a purpose, provides relevant information and interprets that information for the target audience.

More information regarding this assessment will be given to you through the Unit iLean site and in the tutorials.

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in future, as well as in their daily lives.

Oral Presentation

Due: **Weeks 10-12 tutorial sessions**

Weighting: **10%**

A NOTE ON THE DUE DATE: All students must email their Power Point or Prezie file (including flyer, see below) to their tutor by 5pm Wednesday 14th October 2015 (week 10). Presentations will be in the tutorials in weeks 10 to 12.

TASK

You are required to deliver presentations (using PowerPoint, Prezi, or similar) for a 3-4 minute duration, on the Faculty examined in your environmental report. The presentation must briefly discuss the current ecological footprint of the Faculty, recommend environmental management schemes and highlight how their integration into a sustainability strategy will assist in achieving the Macquarie University 'One Planet 2030' goal. You will take on the role of environmental consultant, competing to win the tender to implement the best strategies for achieving the target. You will also need to create an e-poster creatively promoting your recommendations/strategy to be on view while you are answering questions. This can be displayed as the final 'slide' in your presentation.

External students will present and participate in discussion of presentations in an online forum. More information will be provided on the Unit iLearn site.

EVALUATION

Presentations will be 10% of the total course mark. You will be assessed on the following criteria:

Content /Strategy - the originality, achievability and ability to "sell" the strategy to your audience

Clarity - of the discussion points/arguments that are presented

Structure - how well is your presentation structured is it logical and coherent?

Style and timing - quality of slides or other forms of media used to convey your arguments and your ability to stay within the time limit.

Note: Sources must be acknowledged on slides. You will also be assessed on your ability to confidently answer any questions at the end of your presentation.

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Exam

Due: **TBA**

Weighting: **40%**

The final exam comprises 40% of the Unit assessment and will be held during the end of semester examination period (exact date to be advised). The examination will be 2 hours long. Details of the exam conditions will be discussed during the last lecture.

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Delivery and Resources

Lecture 1 10:00 11:00 Thursday E7B T4 Theatre

Lecture 2 10:00 11:00 Friday E7B T2 Theatre

Workshop 1 12:00 13:00 Thursday W5A 202

Workshop 2 13:00 14:00 Thursday W5A 202

Workshop 3 11:00 12:00 Friday W5C 234

Workshop 4 13:00 14:00 Friday W5C 311

Workshop 5 14:00 15:00 Friday W5C 302

External students - weekly online workshop (more details to be posted on iLearn)

Unit Schedule

Wk	Date	Lecture Schedule	Mixed Tutorials	Assessments

Part 1: Contexts of Environmental Management				
1	30 July 31 July	L1 Introduction to ENV267 (EO) L2 Sustainability: origins and challenges (SB)	No tutorials	
2	6 Aug 7 Aug	L3 Australians and the environment (EO) L4 Resource governance: ownership & control (EO)	Tutorial 1: Research, writing and communication skills (SP)	
3	13 Aug 14 Aug	L5 Feeding cities: consumption, growth and urban sustainability (EO) L6 Decision-makers and stakeholders (SB)	Tutorial 2: The dynamics of decision making (SP)	
Part 2: Environmental Management Issues				
4	20 Aug 21 Aug	L7 Australian landscapes and soils (KT) L8 Land degradation (KT)	Tutorial 3: Environmental impact of flow diversions - Snowy (SP)	
5	27 Aug 28 Aug	L9 Catchment management (KT) L10 Climate and hydrology (KT)	Tutorial 4: Analysis of channel change - Snowy (SP)	Sustainability Essay due (20%): 9am, Thursday 27th August
6	3 Sep 4 Sep	L11 Coastal management: challenges and responses (SB) L12 Sea level rise and coastal management (guest lecture Prof. Neil Saintilin, Head of Department of Environmental Science)	On campus excursion (SB)	
7	10 Sep 11 Sep	L13 Climate change in Australia: a perspective from the Climate Council (guest lecture Dr. Martin Rice) L14 Climate change: key challenges for Australia (SB)	Tutorial 5: Eco Footprinting: One Planet 2030 (SP)	

Session 2 break: 12th September to 27th September				
8	1 Oct 2 Oct	L15 Big Australia? The great population debate (EO) L16 Australian responses to climate change (SB)	Tutorial 6: Debating the population issue (SB)	
Part 3: Environmental Management Tools				
9	8 Oct 9 Oct	L17 Environmental Impact Assessment (EO) L18 Social Impact Assessment (EO)	Tutorial 7: Questions and group discussion regarding Assignment 2 and presentations (SP)	
10	15 Oct 16 Oct	L19 Life Cycle Analysis (EO) L20 Weather and extreme events (SB)	Tutorial 8: Student presentations (SP)	Environmental Report due (20%): 9am, Monday 12th October Oral presentations (10%)
11	22 Oct 23 Oct	L21 Integrated and adaptive environmental management (EO) L22 Ensemble weather and climate forecasting (SB)	Tutorial 9: Student presentations (SP)	
12	29 Oct 30 Oct	L23 Community engagement and Natural Resources Management (guest lecturer) L24 Putting a price on carbon (SB)	Tutorial 10: Student presentations (SP)	
Part 4: Perspectives and Synthesis				
13	5 Nov 6 Nov	L25 Your future studies and professional options (EO) L26 Synthesis (EO & SB)	No tutorials	Final exam (40%) – In exam period

Examination

Period:

9th November to
27th November

EO – Dr Emily O’Gorman; SB – Dr Stuart Browning; KT– Dr Kerrie Tomkins; SP– Sarah Prebble

The Lecture Schedule is a guide only. Lecture order and content may vary.

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

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 outcome

- Be prepared and able to respond to the diverse perspectives and approaches relating to environmental management.

Assessment tasks

- Sustainability Essay
- Environmental Report
- Oral Presentation

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

- Be prepared and able to respond to the diverse perspectives and approaches relating to environmental management.
- Learn how to carry out independent research in environmental management and the practical applications of that research.

Assessment tasks

- Tutorial Participation
- Environmental Report
- Oral Presentation

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

- Have a broad knowledge of some of the contemporary contexts, issues and tools associated with environmental management.
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- Be prepared and able to respond to the diverse perspectives and approaches relating to environmental management.
- Appreciate the very recent nature of environmental management issues, how these continue to evolve, and the ability to think about how they may unfold in future.
- Learn how to carry out independent research in environmental management and the practical applications of that research.

Assessment tasks

- Tutorial Participation

- Sustainability Essay
- Environmental Report
- Oral Presentation
- Exam

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

- Be able to think about environmental management from both global and Australian perspectives.
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- Help prepare students for a professional career in this field, or an ability to apply their understanding of environmental management to whatever career they choose to pursue in future, as well as in their daily lives.

Assessment tasks

- Tutorial Participation
- Sustainability Essay
- Environmental Report
- Oral Presentation
- Exam

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

- Have a broad knowledge of some of the contemporary contexts, issues and tools associated with environmental management.
- Have acquired an integrated (biophysical and social) approach to environmental management.
- Be prepared and able to respond to the diverse perspectives and approaches relating to environmental management.
- Learn how to carry out independent research in environmental management and the practical applications of that research.

Assessment tasks

- Sustainability Essay
- Environmental Report
- Oral Presentation
- Exam

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

- Have a broad knowledge of some of the contemporary contexts, issues and tools associated with environmental management.
- Have acquired an integrated (biophysical and social) approach to environmental management.
- Be prepared and able to respond to the diverse perspectives and approaches relating to environmental management.
- Help prepare students for a professional career in this field, or an ability to apply their understanding of environmental management to whatever career they choose to pursue in future, as well as in their daily lives.

Assessment tasks

- Tutorial Participation

- Environmental Report
- Oral Presentation
- Exam

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

- Have a broad knowledge of some of the contemporary contexts, issues and tools associated with environmental management.
- Be able to think about environmental management from both global and Australian perspectives.
- Appreciate the very recent nature of environmental management issues, how these continue to evolve, and the ability to think about how they may unfold in future.
- Learn how to carry out independent research in environmental management and the practical applications of that research.
- Help prepare students for a professional career in this field, or an ability to apply their understanding of environmental management to whatever career they choose to pursue in future, as well as in their daily lives.

Assessment tasks

- Tutorial Participation
- Sustainability Essay
- Environmental Report
- Oral Presentation

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

- Be able to think about environmental management from both global and Australian perspectives.
- Appreciate the very recent nature of environmental management issues, how these continue to evolve, and the ability to think about how they may unfold in future.
- Learn how to carry out independent research in environmental management and the practical applications of that research.
- Help prepare students for a professional career in this field, or an ability to apply their understanding of environmental management to whatever career they choose to pursue in future, as well as in their daily lives.

Assessment tasks

- Sustainability Essay
- Environmental Report
- Oral Presentation

Changes from Previous Offering

Many apologies for any inconvenience caused by changes to this Unit. Due to staffing changes, lecture order and content have altered slightly. The order of tutorials have also changed. A tutorial participation mark of 10% has been added and the weighting of the two written assessments reduced to 20% each.

The on-campus sessions for external students have been replaced with weekly online workshops.

About this Unit

Welcome to ENV267 Australian Environmental Futures.

In Australia, the management of resources and the biophysical environment is rarely out of the media or far from political controversy. Environmental management issues are wide-ranging, and while issues such as climate change are increasingly framed at the global scale, issues such as water security and land degradation are often considered at (inter)national and more local scales. Surrounding most environmental management issues are vigorous debates about the sustainability of prevailing modes of development and resource use. Hence, our environment is certain to remain one of the central political and managerial issues in the 21st century in all local, national and global contexts.

This interdisciplinary Unit introduces and critically examines key environmental, social, economic, cultural and political processes and relationships that underpin environmental management and sustainability in urban, rural and remote Australia. Vital environmental and social issues are considered in the context of integrated and adaptive approaches to management from local to global scales. We also explore fundamental concepts such as

environmental justice, governance, decision-making and system connectivity, and we encourage students to discover more about the past and present in order to contribute to improved environmental futures in Australia and around the world.

ENV267 builds on the foundations of environmental management introduced in ENV118 by engaging students to consider both the social and biophysical sides of inquiry and management for a range of environmental issues. Through investigation of new and constantly evolving issues and their contexts, we reveal that the reality is that sometimes we are faced by more questions than answers! Understanding these conditions sets the stage for advanced courses in the environmental management, environmental science, human geography and planning programs*. Integrated into this Unit and these programs are a range of professional literacy skills, which, together with an understanding of the key environmental issues, are designed to enhance employability within the field environmental management and in related fields.

Learning Objectives

The overall learning objective of ENV267 is to develop a broad understanding of biophysical, economic, social, cultural and political processes and relationships that underpin resource use and environmental management today. The Unit is predominantly focused on these matters as they relate to Australia, although global perspectives are intrinsically linked to the material covered. The Unit has four parts: **Contexts** (weeks 1-3), **Issues** (weeks 4-8), **Tools** (weeks 9-12), and a **Synthesis** (week 13).

The course will:

1. build your understanding of, knowledge in, and skills in environmental management;
2. highlight the importance of an integrated biophysical and social approach to environmental management;
3. challenge you to reflect on diverse perspectives and approaches to environmental management;
4. debate contemporary issues that continue to evolve such as ownership, governance and sustainability; and,
5. engage you in the application of your research skills, your understanding of environmental management, and your ability to engage with complex debates.

Tutorial Series

To complement the lectures and other assessment tasks, the tutorial series is designed to provide students with opportunities to debate, discuss and negotiate issues and approaches in environmental management, and during the course of the semester it will also require you to make an oral presentation to your class. The first tutorial (week 2) is aimed at developing research writing and communication literacy skills that are essential in environmental management. In week 6, we will provide you with the opportunity to interact as a group while exploring some of the issues related to water sustainability and landscape management at Macquarie University. **Please note that all tutorial classes in week 6 will be combined into one session on Thursday 3rd September from 11am-12noon.** All students (internal and

external) are welcome to attend this on-campus excursion (see details below).

To correspond with the two main modules of the Unit (Environmental Management Issues and Environmental Management Tools), the rest of the tutorial series has two stages: (i) Learning through analysis, debate and discussion (weeks 3 to 5 and 7 to 8); and (ii) Learning through research and communication (student oral presentations in weeks 10 to 12). The themes in these weekly sessions are tied to material presented in lectures and they also support the Sustainability Essay and Environmental Report assessment items. Please note that there are no tutorials in week 1 or week 13. Students are expected to read assigned tutorial literature (see below) which will be made available on the iLearn webpage. The issues addressed in the readings will be discussed and debated in the tutorial sessions and student participation is essential.

Tutorial 1 (week 2): Research, writing and communication skills

Communicating with key stakeholders in environmental management, ranging from government bodies to community groups will often require oral presentations in addition to written reports.

Being able to clearly and succinctly explain the relevant issues and challenges of the given environmental project to a range of audiences is a skill developed through planning and practice.

This tutorial on written and oral presentation skills builds on your previous learning. It is designed to assist you prepare for the first assignment (the Environmental Report) and the individual presentations in your tutorials during weeks 10-12. The discussion will cover the following topics: Developing a presentation strategy; Knowing your audience; Preparing your content: KISS (Keep It Simple and Short); and Public speaking skills.

Required reading:

Hay, I. 2006. *Communicating in Geography and the Environmental Sciences*. Oxford University Press, Melbourne. (Chapter 8 – Preparing and delivering a talk).

Tutorial 2 (week 3): The dynamics of decision-making

This tutorial introduces you to the concepts of multi-stakeholder decision-making and explores some of the challenges involved with its implementation. You will examine examples of stakeholder engagement from the literature and consider the decision-making processes identified in the different case studies. Discussions of the case studies will focus on the following questions and issues:

- Who are the different stakeholder groups in the case study and what is the nature of their 'stake' in the environmental management issue?
- What types of consultation and decision-making processes are used in the case study?
- What were the benefits and/ or problems of these processes in facilitating diverse stakeholder participation?

Required reading:

Halpin, D. 2004 Involving diverse interests: theoretical and practical insights from native vegetation in New South Wales, Australia. *EcoHealth*, 1, 196-204.

Measham, T. G., C. Richards, C.J. Robinson, S. Larson, and L. Brake. 2011. Genuine community engagement in remote dryland regions: Natural Resource Management in Lake Eyre Basin. *Geographical Research*, 49(2), 171-182.

Further reading: Rockloff, S. F. and S. Lockie. 2006. Democratization of coastal zone decision making for Indigenous Australians: insights from stakeholder analysis. *Coastal Management*, 34(3), 251-266.

Tutorial 3 (week 4): Environmental impacts of flow diversions in the Snowy River

The plan to corporatise the Snowy Mountains' Hydro-Electric Authority provided the opportunity in 1998 for a significant inquiry into environmental issues associated with the operation of the Snowy Mountains' Hydro-Electric Scheme, which has diverted water from the upper Snowy River to rivers flowing west from the Great Divide since 1967. During this tutorial you will investigate the biophysical and social impacts of the Snowy Mountains' Hydro-Electric Scheme, with emphasis on the Snowy River. This will include analysis of river flows and river channel form as well as an introduction to the interpretation of aerial photographs.

Required reading:

Snowy Water Inquiry. 1998. Snowy Water Inquiry Issues Paper. Jointly sponsored by the Governments of New South Wales and Victoria. Snowy Water Inquiry, Sydney.

Erskine, W.D., N. Terrazzolo, and R.F. Warner. 1999. River rehabilitation from the hydrogeomorphic impacts of a large hydro-electric power project: Snowy River, Australia. *Regulated Rivers: Research and Management*, 15, 3-24.

Erskine, W.D., L.M. Turner, N. Terrazzolo, and R.F. Warner. 1999. Recovery of the Snowy River: politics and rehabilitation. *Australian Geographical Studies*, 37(3), 330-36.

Tutorial 4 (week 5): Analysis of channel change in the Snowy River

During this tutorial you will build on your understanding of the biophysical and social impacts of the Snowy Mountains' Hydro-Electric Scheme by analysing channel changes in the Snowy River over time

Required reading:

Gale, S.J. 1999. The Snowy Water Inquiry: food, power, politics and the environment. *Australian Geographical Studies*, 37(3), 301-13.

Pigram, J.J. 2000. Options for rehabilitation of Australia's Snowy River: an economic perspective. *Regulated Rivers: Research and Management*, 16, 363-73.

On-campus excursion (week 6): Sustainable water and land management at Macquarie

University

This week all students are encouraged to participate in a single session (11am-12noon Thursday) where you have the opportunity to interact as a group while exploring some of the issues related to water sustainability and landscape management at Macquarie University.

Guided by John Macris (Biodiversity Planner at Macquarie University), we will undertake a number of site inspections on campus that highlight issues and solutions in environmental management. The first stop will be the proposed wetland on the western side of campus where a constructed wetland is being built to address an increased flux of nutrients that are entering campus via Mars Creek. We will look at the available data and proposed designs and discuss issues of on-site stormwater management. Stop 2 will be the highly over-engineered lower Mars Creek where we will discuss issues of urban river restoration. The final stop will be the sports fields where we will look at a new and progressive initiative on campus for water re-use. Sewer mining has recently been implemented at this location and is expected to save 21 million litres per year. Required reading: For this field trip you need to review Macquarie University's website on sustainability with a focus on water and waste: see <http://www.mq.edu.au/sustainability/index.html>

Tutorial 5 (week 7): Eco-Footprinting: One Planet 2030

This tutorial will involve a software demonstration of The Footprint Company™ campus calculator, for use in the Environmental Report and Oral Presentation assessment items. There will also be the chance to set up your Faculty data in the calculator for Assignment 2.

Required reading:

Li, G., Q. Wang, X. Gu, J. Liu, Y. Ding, and G. Liang. 2008. Application of the componential method for ecological footprint calculation of a Chinese university campus. *Ecological Indicators*, 8(1), 75-78.

McNichol, H., J.M. Davis, and K.R. O'Brien. 2011. An ecological footprint for an early learning centre: identifying opportunities for early childhood sustainability education through interdisciplinary research. *Environmental Education Research*, 17(5), 689-704.

Recommended Reading:

<http://www.mq.edu.footprintcompany.com.au/SecuredForms/references.aspx?urlkey=info>

See Campus User Guide

Note that this will also be uploaded onto iLearn and is only available through the website once your user name and login has been emailed to you. You do not need to read this manual in entirety before the tutorial. In essence it is a summary of some of the key points that will be made in the tutorial, which will assist you in completing Assignment 2. However, it would be worthwhile having a skim through the manual, so you're prepared for the demonstration.

Tutorial 6 (week 8): The population debate

The question of population growth in Australia continues to be a central theme of debates in environmental management and planning. It is an issue that encompasses economic, social and environmental concerns and has both national and international implications. In this tutorial we will engage in a class debate on the question: Is a “Big Australia’ sustainable?

Required reading:

Kirkland, J. 2011. The political ecology of soil and species conservation in a ‘Big Australia’. *Geographical Research*, 49(3), 276-285.

Thom, B. and F. Mckenzie. 2011. The population policy debate from a Natural Resource perspective: Reflections from the Wentworth Group. *Geographical Research*, 49(3), 348-361.

Tutorial 7 (week 9): Questions and group discussion regarding Assignment 2

An excellent opportunity to polish your assignments and presentation plan.

Required reading:

There will be NO required reading this week, which will allow students to focus on completing their environmental report and fine tuning presentations.

Tutorials 8 to 10 (weeks 10 to 12): Student presentations

Students are required to deliver a 3-4 minute PowerPoint Presentation. This will occur in the regular tutorial classes for internal students and in an online forum for external students. The presentation must briefly discuss the sustainability initiative’s background (be brief here), identify key stakeholders and focus on the delivery of the ‘One Planet 2030’ strategy. The presentation must be carried out as if the presenter is a environmental consultant, presenting to Macquarie University, their proposed strategy to achieve the 2030 One Planet goal.