



GEOP843

Environmental Decision Making

S2 Evening 2019

Department of Geography and Planning

Contents

<u>General Information</u>	2
<u>Learning Outcomes</u>	2
<u>General Assessment Information</u>	3
<u>Assessment Tasks</u>	4
<u>Delivery and Resources</u>	7
<u>Unit Schedule</u>	8
<u>Policies and Procedures</u>	9
<u>Graduate Capabilities</u>	10
<u>Assessment Standards</u>	13
<u>Teaching and Learning Strategy</u>	16

Disclaimer

Macquarie University has taken all reasonable measures to ensure the information in this publication is accurate and up-to-date. However, the information may change or become out-dated as a result of change in University policies, procedures or rules. The University reserves the right to make changes to any information in this publication without notice. Users of this publication are advised to check the website version of this publication [or the relevant faculty or department] before acting on any information in this publication.

General Information

Unit convenor and teaching staff

Unit Convenor

Greg Walkerden

greg.walkerden@mq.edu.au

Contact via By email

430, 6 First Walk

By appointment

Credit points

4

Prerequisites

Admission to MEnv or MEnvEd or MEnvMgt or MEnvStud or MEnvPlan or MPlan or GradCertEnvPlan or MSusDev or MWldMgt or MPPP or GradDipEnv or GradCertEnv or GradCertSusDev or GradDipSusDev or MConsBiol or GradDipConsBiol or MDevStud or MMarScMgt or MSc in (Biodiversity Conservation or Remote Sensing and GIS)

Corequisites

Co-badged status

GEOP843 is co-badged with GEOP743.

Unit description

This unit teaches foundational skills for environmental decision makers. Students learn to triangulate technically, politically and managerially: looking for ways forward that are respectful of networks of cause and effect, make sense in the light of stakeholders' diverse interests, and give reasonable assurance of outcomes. Principled negotiation, creative thinking and reflective practice are also emphasised. Students develop their skills in these areas via two research projects: triangulating on a case study of their choice, and using reflective practice to develop their decision making skills.

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:

Appreciating complexity and uncertainty in environmental and sustainable development decisions.

Appreciating the variety of formal and informal decision making processes that shape sustainability outcomes at local, regional, national and international levels

Appreciating the wide range of tools and methods that can support environmental decision-making

Understanding theoretical perspectives that inform choice of, and design of, environmental decision-making processes

Understanding how to innovate in, and research, environmental decision making

Using skills in stakeholder analysis and negotiation

Using skills in socio-ecological systems analysis and scenario development

Using skills in management system analysis and design

Integrating political, managerial and technical considerations in environmental decision making, and recognising more equitable, resilient and adaptive strategies

Working creatively and innovatively with conflicts and uncertainties

General Assessment Information

Word Counts

References are not included in the word counts set for each assignment.

A tolerance of plus or minus 10% is allowed for, on the set lengths. So for example, a 1,000 word essay could be anywhere from 900 to 1,100 words long. If you submit assignments that are shorter or longer than this, you may be penalised for length.

Submission of Assignments

Assignments 1a, 1b and 2a are to be submitted electronically via iLearn by midnight on the due date.

Assignments 1a, 1b, and 2a will be reviewed by Turnitin, which helps us check whether sources are properly acknowledged, and whether assignments submitted are each student's own work.

Acknowledging your debts to other people's work - your use of their exact words or their ideas - is fundamental to good scholarship. We recommend reviewing Georgetown University's very helpful guide to honest, transparent acknowledgment of your sources: <http://honorcouncil.georgetown.edu/whatisplagiarism>.

Late submissions

To request an extension, make the request for Special Consideration through ask.mq.edu.au, providing a clear explanation and providing supporting documentation where needed (e.g. a Macquarie Professional Authority form).

Unless a Special Consideration request has been submitted and approved, (a) a penalty for lateness will apply – two (2) marks out of 100 will be deducted per day for assignments submitted after the due date – and (b) no assignment will be accepted more than seven (7) days (incl. weekends) after the original submission deadline.

Please plan your work for your units at the start of the Session, and keep track of how much time you have available for each assignment. **Please get help if you are having trouble completing work on time.** Visit a doctor, a Campus Wellbeing service (<https://students.mq.edu.au/support/wellbeing>), talk to your tutor or the Unit Convenor for academic help, or whatever else is appropriate.

Assessment Tasks

Name	Weighting	Hurdle	Due
1a Case Stakeholder Analysis	10%	No	Midnight Sunday 18th August
1b Case Policy Triangulation	40%	No	Midnight Sunday 8th September
2a Practice Research Report	35%	No	Midnight Sunday 13th October
2b Research Group Presentation	15%	No	Weeks 10 to 13

1a Case Stakeholder Analysis

Due: **Midnight Sunday 18th August**

Weighting: **10%**

Stakeholder analysis table for the case you are researching.

1 to 2 page table; 500 words

Your stakeholder analysis table should briefly describe each stakeholder's (i) positions, (ii) interests and (iii) how a negotiation might be approached. Table entries should be dot points, not paragraphs.

Questions to reflect on include:

- who has a stake in this decision?
- what positions are the stakeholders taking?
- what interests underlie their positions?
- what powers does each stakeholder have (e.g. financial, legal, political, intellectual)?
- what approaches might stakeholders be able to align around?

A model for this table will be provided in a class exercise.

On successful completion you will be able to:

- Appreciating complexity and uncertainty in environmental and sustainable development decisions.
- Appreciating the wide range of tools and methods that can support environmental decision-making
- Understanding theoretical perspectives that inform choice of, and design of, environmental decision-making processes
- Using skills in stakeholder analysis and negotiation
- Integrating political, managerial and technical considerations in environmental decision making, and recognising more equitable, resilient and adaptive strategies
- Working creatively and innovatively with conflicts and uncertainties

1b Case Policy Triangulation

Due: **Midnight Sunday 8th September**

Weighting: **40%**

A technical / political / managerial triangulation on the case you are researching, leading to recommendations - 2,000 words

Explain how you see the case through each separate lens – technical, political and managerial – and show how you arrive at your recommendations by synthesising the insights from all three, recognising that decisions that help on the ground are ones that:

- work technically, i.e. they make sense when networks of cause and effect are taken into account,
- work politically, i.e. they are implementable in practice, bearing in mind the realities of political power and powerlessness, and
- work managerially, i.e. plan-do-review loops are closed, resourcing is appropriate, etc., so there is a reasonable chance the benefits will actually be delivered.

On successful completion you will be able to:

- Appreciating complexity and uncertainty in environmental and sustainable development decisions.
- Appreciating the variety of formal and informal decision making processes that shape sustainability outcomes at local, regional, national and international levels
- Appreciating the wide range of tools and methods that can support environmental decision-making
- Understanding theoretical perspectives that inform choice of, and design of, environmental decision-making processes
- Understanding how to innovate in, and research, environmental decision making
- Using skills in stakeholder analysis and negotiation

- Using skills in socio-ecological systems analysis and scenario development
- Using skills in management system analysis and design
- Integrating political, managerial and technical considerations in environmental decision making, and recognising more equitable, resilient and adaptive strategies
- Working creatively and innovatively with conflicts and uncertainties

2a Practice Research Report

Due: **Midnight Sunday 13th October**

Weighting: **35%**

Report on your experiments with your own practice – 2,000 words, appendices optional.

Your research report will report on your experiments, during the session, with reflectively practicing one or more of the practices Environmental Decision Making focuses on, to develop your skills as an environmental decision maker. The six practices are: stakeholder analysis (which develops political sensitivity), systems analysis (which develops technical insight), management system analysis and design (which develops managerial sensitivity), negotiation, creative thinking and reflective practice. These experiments can take place in any setting *other than* your work in GEOP843 classes or assignments - e.g. in another unit you are doing.

The research methods you will use come from Donald Schön's and Eugene Gendlin's work on reflective practice: (i) using one or more of exploratory practice, move testing and hypothesis testing (Schön), while (ii) exploring, leveraging and developing your 'feel' for what it may make sense to do (Gendlin).

The report will use a classic structure for a research report: Introduction, Methods, Results and Discussion, and Conclusion. For Assignment 2b students will work in groups and synthesise their learnings on one of the six practices, that they have each worked on individually in Assignment 2a, to integrated guidance on challenges with developing skills in this area of practice, and insights one how to be more effective. Groups will be identified early in the Session, after students have nominated the practices that they intend to experiment with. (Group members are encouraged to work together to share learnings as they carry out their individual practice research projects.)

On successful completion you will be able to:

- Appreciating complexity and uncertainty in environmental and sustainable development decisions.
- Appreciating the wide range of tools and methods that can support environmental decision-making
- Understanding theoretical perspectives that inform choice of, and design of, environmental decision-making processes
- Understanding how to innovate in, and research, environmental decision making
- Using skills in stakeholder analysis and negotiation

- Working creatively and innovatively with conflicts and uncertainties

2b Research Group Presentation

Due: **Weeks 10 to 13**

Weighting: **15%**

Practice Research Group Presentations

For these presentations, groups of students will present key findings about how students can develop their skills as decision makers in one of the six areas of practice that GEOP843 focuses on. The groups will be composed of people who have experimented reflectively with the same practice; the group presentation will be based on the group members' individual work in Assignment 2a. The presentations should describe challenges encountered and insights into how to be more effective, based on the group members' individual research. Group members have the opportunity to keep the details of their own research confidential if they wish, reporting findings in more general terms in the group presentations. The presentations can be fairly conventional - with reports of methods, findings, and recommendations, followed by question and answer sessions - or they can be other kinds of educational exercises (e.g. role plays or workshop exercises) that the group decides will convey the important learnings from the group members' research projects. Groups will be identified early in the Session, after students have nominated the practices that they intend to experiment with in Assignment 2a.

On successful completion you will be able to:

- Appreciating complexity and uncertainty in environmental and sustainable development decisions.
- Appreciating the variety of formal and informal decision making processes that shape sustainability outcomes at local, regional, national and international levels
- Appreciating the wide range of tools and methods that can support environmental decision-making
- Understanding theoretical perspectives that inform choice of, and design of, environmental decision-making processes
- Understanding how to innovate in, and research, environmental decision making
- Using skills in stakeholder analysis and negotiation
- Using skills in socio-ecological systems analysis and scenario development
- Using skills in management system analysis and design
- Integrating political, managerial and technical considerations in environmental decision making, and recognising more equitable, resilient and adaptive strategies
- Working creatively and innovatively with conflicts and uncertainties

Delivery and Resources

Technology used and required

Students will need access to a computer and basic office software (eg. Microsoft Office or OpenOffice), and course web pages to complete assessment tasks. (The computers in the EMC2 building are usually available.) The unit's webpage is on iLearn: <https://ilearn.mq.edu.au>

Recommended Texts

The following are recommended background reading:

- Harding R, CM Hendriks & M Faruqi 2009 *Environmental Decision-making: Exploring Complexity and Context*, The Federation Press, Sydney.
- Walker B & D Salt 2006 *Resilience thinking: sustaining ecosystems and people in a changing world*, Island Press, Washington.
- Forester J 1989 *Planning in the Face of Power*, University of California Press, Berkeley.

Finding relevant journal articles

Citing peer reviewed research is essential for all assignments. Access peer reviewed journal articles through the [University Library's website](#); use MultiSearch. [Google Scholar](#) is an excellent starting point. If you are off-campus, accessing Google Scholar from [the university library's home page](#) (see link below the Search box) will make it easier to get to journal articles.

The following databases of journal articles accessible through the [University Library](#) are also particularly recommended:

- Academic Search Premier
- JSTOR
- Scopus
- Web of Knowledge
- Web of Science

The library has put together [a set of guides](#) to assist researchers in multiple disciplines, including Environmental Law, Environmental Science and Human Geography.

See the Unit's [iLearn home page](#) for further sources of information.

Writing Guide and Referencing

All written work must comply with the Graduate School of the Environment Writing Guide for preparing written work available on iLearn. Refer to it for details of how to reference sources, amongst other things.

Unit Schedule

Classes

GEOP843 lectures and workshops will be presented and facilitated by the convenor and guest speakers from a variety of organisations involved in environmental planning and management.

Classes run from 6:00 pm to 9:00 pm on Tuesday nights. The room and other details (notably calendar weeks and dates) are in the [University Timetable](#).

See the Unit's iLearn page for details of the program.

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central\)](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central). Students should be aware of the following policies in particular with regard to Learning and Teaching:

- [Academic Appeals Policy](#)
- [Academic Integrity Policy](#)
- [Academic Progression Policy](#)
- [Assessment Policy](#)
- [Fitness to Practice Procedure](#)
- [Grade Appeal Policy](#)
- [Complaint Management Procedure for Students and Members of the Public](#)
- [Special Consideration Policy](#) (**Note:** *The Special Consideration Policy is effective from 4 December 2017 and replaces the Disruption to Studies Policy.*)

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

If you would like to see all the policies relevant to Learning and Teaching visit [Policy Central \(https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central\)](https://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/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/study/getting-started/student-conduct>

Results

Results published on platform other than [eStudent](#), (eg. iLearn, Coursera etc.) or released directly by your Unit Convenor, are not confirmed as they are subject to final approval by the University. Once approved, final results will be sent to your student email address and will be made available in [eStudent](#). For more information visit ask.mq.edu.au or if you are a Global MBA student contact globalmba.support@mq.edu.au

Student Support

Macquarie University provides a range of support services for students. For details, visit <http://students.mq.edu.au/support/>

Learning Skills

Learning Skills (mq.edu.au/learningskills) provides academic writing resources and study

strategies to 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

If you are a Global MBA student contact globalmba.support@mq.edu.au

IT Help

For help with University computer systems and technology, visit http://www.mq.edu.au/about_us/offices_and_units/information_technology/help/.

When using the University's IT, you must adhere to the [Acceptable Use of IT Resources Policy](#). The policy applies to all who connect to the MQ network including students.

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

- Integrating political, managerial and technical considerations in environmental decision making, and recognising more equitable, resilient and adaptive strategies
- Working creatively and innovatively with conflicts and uncertainties

Assessment tasks

- 1a Case Stakeholder Analysis
- 1b Case Policy Triangulation
- 2a Practice Research Report
- 2b Research Group Presentation

PG - Discipline Knowledge and Skills

Our postgraduates will be able to demonstrate a significantly enhanced depth and breadth of knowledge, scholarly understanding, and specific subject content knowledge in their chosen fields.

This graduate capability is supported by:

Learning outcomes

- Appreciating complexity and uncertainty in environmental and sustainable development decisions.
- Appreciating the variety of formal and informal decision making processes that shape sustainability outcomes at local, regional, national and international levels
- Appreciating the wide range of tools and methods that can support environmental decision-making
- Understanding theoretical perspectives that inform choice of, and design of, environmental decision-making processes

Assessment tasks

- 1a Case Stakeholder Analysis
- 1b Case Policy Triangulation
- 2a Practice Research Report
- 2b Research Group Presentation

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

- Appreciating complexity and uncertainty in environmental and sustainable development decisions.
- Using skills in socio-ecological systems analysis and scenario development
- Using skills in management system analysis and design

Assessment tasks

- 1a Case Stakeholder Analysis

- 1b Case Policy Triangulation
- 2b Research Group Presentation

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

- Understanding how to innovate in, and research, environmental decision making
- Working creatively and innovatively with conflicts and uncertainties

Assessment tasks

- 1a Case Stakeholder Analysis
- 1b Case Policy Triangulation
- 2a Practice Research Report
- 2b Research Group Presentation

PG - Effective Communication

Our postgraduates will be able to communicate effectively and convey their views to different social, cultural, and professional audiences. They will be able to use a variety of technologically supported media to communicate with empathy using a range of written, spoken or visual formats.

This graduate capability is supported by:

Learning outcomes

- Appreciating the variety of formal and informal decision making processes that shape sustainability outcomes at local, regional, national and international levels
- Using skills in stakeholder analysis and negotiation

Assessment tasks

- 1a Case Stakeholder Analysis
- 1b Case Policy Triangulation
- 2a Practice Research Report
- 2b Research Group Presentation

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 outcome

- Integrating political, managerial and technical considerations in environmental decision making, and recognising more equitable, resilient and adaptive strategies

Assessment tasks

- 1b Case Policy Triangulation
- 2a Practice Research Report

Assessment Standards

Requirements to Complete this Unit Satisfactorily

In order to successfully complete this unit students must:

- *attend at least 80% of scheduled lectures;*
- *participate in class discussions, workshops and activities;*
- *complete all assessment tasks; and*
- *reach a satisfactory postgraduate level of achievement in assignments or other assessment as determined by the Head of Department.*

Assessment Standards

Many specific aspects of your work are important (as identified in the following standards), but it is the overall quality of the completed work that is important. Assignments will be assessed holistically. The following bands are 'ideal types': lists of the features of typical examples of assignments at each level.

The standard of each assignment is obviously important - good grades demonstrate that your work is competent, proficient or excellent. But from a learning perspective, it is equally important to look at your own work developmentally: to look for gradual improvement, deepening insight, and broadening competency. Grades for assignments assess the standard of your work.

Comments on assignments are intended to be helpful developmentally: indicating what you have achieved, and how you could improve your work.

For a grade of High Distinction ($\geq 85\%$)

- use and synthesis of a variety of high quality sources not mentioned in class or on reading lists;
- considered use of dictionary and technical terms, diagrams and/or other sources to define and set the topic in context;

- incisive and decisive specification of the key issues;
- prioritisation and exposition of the key issues in a clear and logical sequence;
- relevant contrary arguments are identified and effectively dealt with;
- discussion forms a sound basis for clear, justified and comprehensive recommendations and conclusions;
- independence of thought and obvious originality;
- demonstrated ability to weigh arguments and form clear, considered personal viewpoints;
- proficient use of the English language;
- references presented at 'publishable' standard.

Overall, your work demonstrates, in an interesting or challenging way, originality based on proficiency in all the learning objectives.

For a grade of Distinction (75-84%)

- use and synthesis of some high quality sources not mentioned in class or on reading lists, and reference to some others;
- adequate use of dictionary and technical terms, diagrams and/or other sources to define and set the topic in context;
- clear specification of the key issues;
- key issues generally presented in a logical sequence;
- relevant contrary arguments raised but might not be fully resolved;
- discussion leads to clear and justified recommendations and conclusions;
- independence of thought and significant originality;
- general ability to weigh arguments and form personal viewpoints;
- clear use of the English language;
- references largely error free.

Overall, your work demonstrates a comprehensive awareness and understanding of the topic of the assignment.

For a grade of Credit (65-74%)

- use and synthesis of some high quality sources, and reference to some additional good quality material;
- use of dictionary and technical terms to define and contextualise the topic;
- overall awareness of the key issues;
- the selected key issues generally presented in a logical sequence;
- some contrary arguments raised with inadequate appreciation of their significance;

- a clear statement of conclusions and recommendations;
- some independent thought but limited originality;
- difficulties in weighing arguments and presenting personal viewpoints;
- sometimes proficient and always passable use of the English language;
- some errors of omission or detail in presentation of references.

Overall, your work demonstrates the ability to use and apply fundamental concepts and skills.

For a grade of Pass (50-64%)

- limited use and synthesis of good quality sources;
- use of dictionary or vernacular definitions in an attempt to identify and set the topic in context;
- some awareness of the key issues;
- some attempt to order the argument, but flaws in logical discipline;
- few contrary arguments raised and little appreciation of their significance or resolution;
- a generally clear statement of conclusions and recommendations;
- little independent thought and minimal originality;
- little weighing of argument and lack of clarity in personal viewpoints;
- passable use of the English language;
- some errors of omission or detail in presentation of references.

Overall, your work satisfies the basic learning requirements of the assignment.

For a grade of Fail (45-49%)

- at the lower end of the acceptable range for most criteria for a grade of 4.

For a lower grade of Fail (26-44%)

- lack of awareness of sources or what the question is about;
- confused definitions;
- general inability to identify the key issues;
- inability to order the argument;
- few, if any, contrary arguments raised and no appreciation of their significance or resolution;
- inadequate statement of conclusions or recommendations;
- no independent thought or originality;
- no ability to weigh arguments or form personal viewpoints.

For a grade of Serious Fail (< 26%)

- no reference to suggested sources, generally inappropriate use of materials

- no attempt at definitions;
- no awareness of key issues, such that the paper fails to address or answer the question;
- arguments unformulated, many errors, unsupported assertions, unjustified generalisations;
- contrary arguments impugned or ignored;
- inconclusive outcome to the paper;
- no independent thought, any originality likely to be illogical;
- inability to weigh arguments, personal viewpoints absent or inadequate.

Source: Neil DT, Wadley DA, and Phinn SR 1999, 'A generic framework for criterion-referenced assessment of undergraduate essays', *Journal of Geography in Higher Education*, 23(3) pp. 303-325. See also: Neil DT, Wadley DA, and Phinn SR 1998, *Assessment Guidelines*, School of Geography, Planning and Environmental Management, The University of Queensland.

Used with permission. This text is a very minor adaptation of an excerpt from Neil, Wadley and Phinn (1998). See the full text in either version for further very useful background on these standards, and the criteria they reflect.

Academic Honesty

It is a fundamental principle that all staff and students act with integrity in the creation, development, application and use of ideas and information. This means that:

- all academic work claimed as original is the work of the author making the claim
- all academic collaborations are acknowledged
- academic work is not falsified in any way
- when the ideas of others are used, these ideas are acknowledged appropriately.

All students should familiarise themselves with [Macquarie University's Academic Honesty Policy](#).

The Department recommends that students familiarise themselves with the [explanation of plagiarism](#) on the Georgetown University Honor Council website which discusses plagiarism in an easy to understand and comprehensive manner.

Teaching and Learning Strategy

Teaching and Learning Strategy

The teaching process has four main elements:

1. Lectorials (conversational lectures – a hybrid lecture / tutorial format) that introduce basic concepts.
2. Talks from guest lecturers that convey the complexities of environmental and sustainability decision-making, in practice, in diverse settings.
3. Workshop sessions that provide opportunities for experiential learning.

4. Assignments that require students to practice key skills, including taking a systems perspective, stakeholder analysis, management system analysis, and integrative thinking.

Students are expected to:

- participate in workshop activities in small groups (including discussions, role plays, and practicing key skills in small groups);
- read set readings in advance for classes; and
- follow current developments with regard to environmental decision-making, environmental policy and sustainable development in the media.

Lectorials and workshop sessions will introduce students to:

- identifying social, economic and ecological interdependencies,
- identifying political, institutional and managerial issues,
- identifying scientific, legal, engineering, planning, and other technical information relevant to decisions,
- appreciating complexity and uncertainty in environmental and sustainable development decisions,
- appreciating the variety of formal and informal decision making processes that shape sustainability outcomes at local, regional, national and international levels, and
- appreciating the wide range of tools and methods that can support environmental decision-making, through a mixture of theory and case studies.

Key analytical and synthesis skills - stakeholder analysis, socio-ecological systems analysis, management system analysis, and making judgments that integrate political, managerial and technical considerations - will be practiced in workshop sessions and in the main assignment.

Workshops will also provide opportunities for practicing negotiation skills and appreciating differences in decision making practices in different cultural and national contexts.

Skills in reflective practice will be an ongoing subtext, with frequent invitations to reflect, and a final assignment designed to evoke students' reflection on their learnings.

Rationale for Modes of Assessment

- The Case Study Assignments, 1a and 1b, introduce students to policy research, and involve applying skills in stakeholder analysis, socio-ecological systems analysis, and management system design, to support identification of more equitable, resilient and adaptive policy options. These are 'mesopractices': practices typically used at a resolution of hours to days.
- The Practice Research Assignments, Assignment 2a and 2b, develops skills in reflective

practice, and specifically in taking an experimental approach to one's own 'micropractices': practices typically used at a resolution of seconds to minutes. Practice skills at this resolution make a large difference to the quality of one's work.

Teaching Program

See the [Unit's iLearn page](#) for details of the program.