ENV 301

Environmental Management Project

S2 Day 2014

Dept of Environment & Geography

Contents

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
Professor Mark Patrick Taylor
mark.taylor@mq.edu.au
Contact via mark.taylor@mq.edu.au
E7A631
On the days listed in the guide, by arrangement. Prof Taylor works Mon-Wed-Fri in semester II, 2014.

Credit points
3

Prerequisites
39cp including [(ENV267(P) or GEOS267(P)) and (ENV300 or ENVG340 or ENVE362)]

Corequisites

Co-badged status

Unit description
This is a simulated work experience unit, where small groups undertake major projects on matters of environmental concern under the supervision of Macquarie staff and experts from outside agencies. Progress reports and a final presentation are made by each group. Much of the project work is undertaken independently and outside formal class hours (the class does not meet every week but there are frequent opportunities for additional advice and supervision with the course convenor).

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:

Design a research program

Create and maintain a group, delegate tasks, accept tasks from colleagues and responsibility for group management

Produce a professional document of the size and complexity required of consultants

Be a confident and professional presenter of information

Further develop a sense of social and environmental awareness

Assessment Tasks

Name	Weighting	Due
Presentation 1	10%	Week 3
Presentation 2	10%	Week 5
Report summary	10%	Week 12
Presentation and Report	10%	Week 13
Report	60%	Week 13

Presentation 1

Due: **Week 3**
Weighting: **10%**

The **Week 3** presentation is more formal, and will be assessed. By then you should have your project defined, methods outlined, internal and external supervisors known, a preliminary visit to the field site (if appropriate), and the whole thing described clearly and illustrated. If your group is prevaricating about a project at this stage, I may assign a project and internal supervisor to you. Be aware that if I do this at this stage in the semester, it is compulsory.

For the presentation, aim for ~10 minutes plus ~5 minutes of questions. This is a serious presentation; we will have an electronic lectern and a data projector available. Everyone in the group must take a turn talking; this is part of the assessment.

On successful completion you will be able to:

- Design a research program
- Create and maintain a group, delegate tasks, accept tasks from colleagues and responsibility for group management
- Be a confident and professional presenter of information

Presentation 2

Due: **Week 5**
Weighting: **10%**

The **Week 5** presentation is an opportunity to showcase your initial data, and again to help guide you through any issues arising. Again, aim for 10 minutes plus ~5 minutes of questions but this time overview your topic only briefly (that is, don't repeat much of what you presented in Week 3). What I really want to see is your data (field, lab, whatever) and how far you have progressed beyond Week 3. This presentation will be assessed in the same way as Week 3, and again

everyone must take a turn talking because it is part of the assessment.

On successful completion you will be able to:
- Create and maintain a group, delegate tasks, accept tasks from colleagues and responsibility for group management
- Produce a professional document of the size and complexity required of consultants
- Be a confident and professional presenter of information
- Further develop a sense of social and environmental awareness

Report summary

Due: **Week 12**
Weighting: **10%**

The **Week 12** summary is to be provided so that I can assemble and print a booklet to hand to students and supervisors at the Week 13 presentation. 2 pages is sufficient to set out your Research Question(s), methods and major findings. Where possible you might wish to include summary tables, graphs, diagrams, photographs or other evidence of your research. For ideas of how to construct summaries, simply review relevant journal articles or research reports in the field related to your project.

On successful completion you will be able to:
- Design a research program
- Create and maintain a group, delegate tasks, accept tasks from colleagues and responsibility for group management
- Produce a professional document of the size and complexity required of consultants

Presentation and Report

Due: **Week 13**
Weighting: **10%**

The **Week 13** presentation is your final summation of the issue and what you know about it, how to resolve it and the way forward (whatever that might be). The presentation should also include reflections on the successes / failures of the project and how you might now revise your approach on reflection. This should be of a high standard, and again everyone in the group must have a turn presenting various aspects. Invitations will be extended to internal and external supervisors to attend. Because some people will not have seen your presentation before, describe your whole project from Aims to Conclusions. Aim for ~10 minutes of presentation, plus questions.

On successful completion you will be able to:

- Design a research program
- Create and maintain a group, delegate tasks, accept tasks from colleagues and responsibility for group management
- Produce a professional document of the size and complexity required of consultants
- Be a confident and professional presenter of information

Report

Due: **Week 13**
Weighting: **60%**

The **Final report** should reflect your research outcomes. Formats and outputs may vary from a scientific paper like in a journal, to a report that includes a final copy of a pamphlet, to a short video. The possibilities are huge. See my thoughts on expected standards and issues with group work. You are to produce at least two copies of the final report; I will retain one and the other will be sent to your external supervisor, along with a thank-you note from me for acting as an external supervisor. You are required to hand in two copies, bound and finalised, with the address of your external supervisor listed inside the front page. You are also required to provide a suitably sized envelope addressed to your external partner so your report can be forwarded in due course.

* There is no word limit set for the Final Report, but being succinct and using relevant information will keep the report length to a sensible length.

On successful completion you will be able to:

- Produce a professional document of the size and complexity required of consultants
- Further develop a sense of social and environmental awareness

Delivery and Resources

ENV301 occupies a 3 hour teaching block on Thursday from 11 am to 1 pm, in W6B 345. We only meet formally four times in the semester so that you have ample time to read and carry out your research project. Please refer to the Unit timetable below, for further guidance. If I ask that your group wish to meet with me outside of these designated four meetings, consider it to be compulsory, given that there will be a good reason for it – such as insufficient evidence of progress that needs to be discussed. You and your group have to give three presentations (Weeks 3, 5 and 13), submit a short project summary (Week 12) and two copies of a bound Final Report (Week 13). In addition, reflecting and responding to the needs of previous group projects, I have scheduled 3 weeks (weeks 7, 10, 12) for meetings as required by the groups. I request that we stick to the scheduled available times for meetings for this Unit.

The University expects that you devote 9 hours per week (over the 15 week semester), in total, to a 3 credit point unit like ENV301. Put another way, you should be able to achieve a passing grade with around 135 hours for the semester. A rough breakdown for EACH person might be as follows:

Classroom: 4 x 3 hours = 12 hours

Project meetings: 6 x ~ 1 hours (including preparation time) = 6 hours.

Individual/group research: 117 hours

Total: 135 hours

There is no set textbook or reading list for this unit, due to the varied nature of the projects that are carried out.

Unit Schedule

Week 1 - Introductory lecture and project definition, selection and confirmation

Week 3 - **Presentation** - topic overview

Week 5 - **Presentation** - data collected/other measures of progress presented

Week 6,9,11 - *Consultations as requested by groups – time TBA

Week 7 - Optional meeting for groups – time TBA

Week 10 - Optional meeting for groups – time TBA

Week 12 - Optional meeting for groups – time TBA

Week 13 - **Final presentations** - "Industry day" [Externals are welcome to attend]

*For consultations outside of scheduled meeting times it is requested that appointments are made for Wednesdays 10am -1 pm so that you can be assured of having time to discuss your study.

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/

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

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 outcome

- Create and maintain a group, delegate tasks, accept tasks from colleagues and responsibility for group management

Assessment tasks

- Presentation 2
- Report summary
- Report

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 outcome

- Further develop a sense of social and environmental awareness

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

- Produce a professional document of the size and complexity required of consultants
- Be a confident and professional presenter of information
- Further develop a sense of social and environmental awareness

Assessment tasks

- Presentation 2
- Report summary
- Presentation and Report
- Report

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 outcome

- Produce a professional document of the size and complexity required of consultants

Assessment tasks

- Presentation 2
- Report summary
- Presentation and Report
- Report

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 outcome

- Design a research program

Assessment tasks

- Presentation 1
- Presentation 2
- Report summary
- Report

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:

Assessment tasks

- Presentation 1
- Presentation and Report
- Report

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

- Create and maintain a group, delegate tasks, accept tasks from colleagues and responsibility for group management
- Produce a professional document of the size and complexity required of consultants
- Be a confident and professional presenter of information

Assessment tasks

- Presentation 1
- Presentation 2
- Report summary
- Presentation and Report
- Report

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 outcome

- Further develop a sense of social and environmental awareness

Assessment tasks

- Presentation and Report
- Report

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 outcome

- Further develop a sense of social and environmental awareness

Assessment task

- Report

Aims

- To create experience in solving applied problems
- To create industry linkages
- To cement group work/social interaction skills
- To foster a research culture
- To become an effective and confident communicator, particularly in public speaking
- To continue to become socially and environmentally aware and responsible

Assessment Overview

In small groups, you will define projects in conjunction with the Unit convenor and your supervisor, that have the following parameters;

1.A research question(s) on a matter of environmental concern. These are not prescriptive, so there's no point in writing down too many guidelines here. You will need to consult with the convenor and your internal supervisor to determine if your ideas are appropriate. If you have absolutely no ideas, I will make suggestions and in extreme circumstances I will allocate projects.

2.Methods that are able to address the question(s).

3.An internal supervisor.

4.An external (industry, agency, etc) supervisor.

We will formerly meet at Weeks 1, 3, 5 and 13, and your group will give formal presentations at Weeks 3, 5 and 13. The presentations on Weeks 3 and 5 are opportunities for feedback, when

your peers have an opportunity to have input into your project design. Additional meetings will be available in weeks 6,7, 9-12 with Prof Taylor to assist with project management and design issues. **Please invite your internal supervisor to all presentations, and your external supervisor (as well) to the final presentation.**

The **Week 1** meeting is informal. In it, I will overview past projects, expected standards, get groups together if they aren't already sorted, approve projects for those who already have their ideas resolved. I will be looking for who knows what they are doing, who doesn't, and to have initial quality control on the projects.

The **Week 3** presentation is more formal, and will be assessed. By then you should have your project defined, methods outlined, internal and external supervisors known, a preliminary visit to the field site (if appropriate), and the whole idea described clearly and illustrated. If your group is prevaricating about a project at this stage, I may assign a project and internal supervisor to you. Be aware that if I do this at this stage in the semester, it is compulsory.

For the presentation, aim for ~10 minutes plus ~5 minutes of questions. This is a serious presentation; we will have an electronic lectern and a data projector available. Everyone in the group must take a turn talking; this is part of the assessment.

The **Week 5** presentation is an opportunity to showcase your initial data, and again to help guide you through any issues arising. Again, aim for 10 minutes plus ~5 minutes of questions but this time overview your topic only briefly (that is, don't repeat much of what you presented in Week 3). What I really want to see is your data (field, lab, whatever) and how far you have progressed beyond Week 3. This presentation will be assessed in the same way as Week 3, and again everyone must take a turn talking because it is part of the assessment.

Weeks 7, 10, 12 – meeting times (up to 30 mins) can be booked to assist with project management, development and design as required by the groups.

Other weeks (6,9,11) – Additional consultations are available on Thursday mornings 10 am to 1 pm with groups as required. Please make an appointment so not to be disappointed!

The **Week 12** summary is to be provided so that I can assemble and print a booklet to hand to students and supervisors at the Week 13 presentation. 2 pages is sufficient to set out your Research Question(s), methods and major findings. Where possible you might wish to include supporting tables, graphs, diagrams, photographs or other evidence of your research, though these should be supplementary and not the principle items in your summary. For ideas of how to construct summaries, simply review relevant journal articles or research reports in the field related to you project.

The **Week 13** presentation is your final summation of the issue and what you know about it, how to resolve it and the way forward (whatever that might be). This should be of a high standard, and again everyone in the group must have a turn presenting various aspects. Invitations will be extended to internal and external supervisors to attend. Because some people will not have seen your presentation before, describe your whole project from Aims to Conclusions. Aim for ~10 minutes of presentation, plus questions.

The **Final report** should reflect your research outcomes. Formats and outputs may vary from a scientific paper like in a journal, to a report that includes a final copy of a pamphlet, to a short

video. The possibilities are huge. See my thoughts on expected standards and issues with group work. You are to produce at least two copies of the final report; I will retain one and the other will be sent to your external supervisor, along with a thank-you note from me for acting as an external supervisor.

Assignment Assessment Criteria

Details and specific requirements of each assignment are elsewhere in this guide. Assessment criteria are:

Presentations - General

• The overall issues are quality and clarity of content.

• Quality of content - you should have clear, sensible, achievable, worthwhile research questions/hypotheses that are addressed via appropriate methods.

• Clarity of content - clear, concise speech, talking to the audience (i.e. not the screen), a minimum of umms and ahhs. Visual material should be clear, uncluttered and large enough to read from the audience.

Specific marking template that will be used to assess and feedback to groups on presentations:

 1. Presentation standard and style

 2. Articulation of Research Question

- What

- Why

- Where

- When

3. Articulation of Methods

- Timeframe

- Details (terms, tools etc)

- Why and why not?

- Control site?

- Context?

Each group will be given a mark out of 10 for each of their presentations, which will go toward their final mark. Please note that because all work is group work then in the ultimate students will only receive a Pass or Fail for this unit, irrespective of the cumulative marks for the various

components of the Unit.

Week 12 summary and Week 13 Final Report:

• Addressing the question that is asked by you with a well-developed discussion of the topic, and its implications, that place the topic in a broader context.

• Using and citing a wide range of literature, including texts, research papers, and grey literature.

• Demonstrating good planning with a clear structure, headings, and a logical argument based firmly on the literature cited.

• Presenting a legible paper (where appropriate) with correct grammar and spelling, and correct use of professional terminology as appropriate (note that I expect word processing of the Final Report).

• Using correct SI units, and correct abbreviations.

• Referring to figures and tables in the text, with full and appropriate titles on each figure and table, irrelevant material is omitted, sources are given.

• Citing references acceptably, correctly and consistently in the text as well as in the reference list, no abbreviations, and correct citation of chapters in edited books.

• Being concise is a virtue; if you can make your point/s with fewer words, please do so.

• Handing in on time.

• Completing a report with adequate detail that represents the time for this unit for EACH student.

• There is no exam for this unit – it is 100% course work i.e. your project.

If you experience difficulty achieving a good standard in your written presentation, please talk to me. The University offers a variety of writing courses and sources of advice that may help you.

Assignment extensions and penalties

Failure to attend the presentations without justification means that your personal mark will be zero for that piece of assessment. The rest of the group will not be penalised for non-attendance of a group member. The final report must be completed and submitted, on time and in full, in order to receive credit. Late assignments must be handed personally to me, and they will be penalised 10% of the assignment grade per day or part thereof, beginning at 1000 hours, not at some time later in the day. Late days include weekends. This penalty will be imposed if required. Allowing a group to hand the final report in late is unfair to those who meet the deadlines.

Attendance at the presentations and the deadline for the final report are not negotiable. Only a medical certificate or a letter with appropriate supporting documents outlining other serious extenuating circumstances can be used to avoid penalties associated with non-attendance or late/non-submissions of the report. Let me know of problems in advance or as soon as possible, not after the event: I am likely to be more sympathetic and flexible in my requirements if you follow this advice.

Grading approach and policy

As noted elsewhere in this Unit guide, assessment will comply with the standard University grading policy and its descriptors:

http://www.mq.edu.au/policy/docs/grading/policy.html

Examples of Specific skills (depends on project)

- Fieldwork/laboratory skills
- Chemical analysis skills
- Writing a major report to a professional standard
- Learning to make presentations (via Powerpoint or similar) to a professional standard
- Learning to give presentations, articulated clearly and professionally

Final Results

The assessment in ENV301 leads to a raw percentage mark, which I use to then assign a grade of either Satisfactory or Unsatisfactory. This is required by the University Policy on group work (see the Handbook of Undergraduate Studies). This result does not contribute to your grade point average. Feedback will also come in the form of comments given to you verbally at the meetings or emailed directly to you, as well as general commentaries directed to the entire class (either in class or via an email list).

Generic Skills

- Planning and executing research
- Group management and cooperation
- Developing industry linkages
- Oral presentation skills
- Report preparation
- Synthesis of literature

Handing in Final Report

You are required to keep at **least one backup copy** of the final version of your Final Report. Please submit **two bound copies** of your Final Report to me in the classroom. The supervisors

full contact details must be included. If your Report is late and without a formal extension granted, it must be handed to me (*not* left under the office door). It is in your interest to hand in your work on time. If you wish to hand in your summary or Final Report late and you have a medical certificate, you must give it to me. If you know or suspect that you are going to hand in your work late, please talk with me. Unless there is the appropriate documentation, late submissions will be penalised or not marked. The final reports will not be returned – I keep one and I will give the other to your internal supervisor. Note that you may wish to give one to your external supervisor as well.

Issues with Group Work

Group work can be fun and rewarding, and can build very strong relationships for future collaboration in the workplace. I really believe that a strength of this unit is the generic skills you will learn in group project management. Most importantly though, you can use individual strengths of the different team members to enhance project outcomes.

I expect all group members to contribute equally, although it is up to each group to determine what the individual contributions should be. I know that it is sometimes difficult to work in groups. However, the workplace offers little flexibility as to who your colleagues are, and at some stage in the future you will have to work alongside someone you don't really like. My advice is to try to respect them even if you do not like them, and make place for their opinions and efforts in the team. In a team situation, like ENV301, it best to allocate tasks according to individual skills, interests and abilities. Taking notes at group meetings and emailing out the agreed tasks and timeframes is a good way to keep track of what has been agreed, who is to what tasks and by what date those task have been agreed to be completed. This information maybe useful for resolving any disagreements of who is / is not contributing. In all cases, communication is the key to success in this program. In ENV301, if I even catch a hint that a group is excluding someone from group activities, I shall respond. Please talk with Mark if there are issues.

PACE - Participation

PACE stands for Participation and Community Engagement. By connecting students with partner organisations, PACE gives Macquarie students the chance to contribute their academic learning, enthusiasm and fresh perspective to the professional workplace. The website for PACE can be located here: http://www.mq.edu.au/about_us/offices_and_units/ professional_and_community_engagement/ is a key component of the University's strategic direction, emphasising the University's commitment to excellence in research, learning and teaching and community engagement. ENV301 has been accredited as a Participation unit from 2013. Participation units provide an academic framework through which students can engage with the community, learn through participation, develop their capabilities and build on the skills that employers value. By completing a participation unit, students develop all these skills and capabilities, and also gain academic credit towards their degree Participation activity – the experiential component of a Participation unit whereby students engage with the community through Participation. The activity can be carried out in a variety of modes such as block (a concentrated period) or over the course of the whole semester (i.e. limited hours per week). Similarly, the timing of the Participation activity for each student may be different depending on arrangements with the community-based partner. The initial selection of partners is left

deliberately to the choice of students; however, projects proposed must be approved by the Unit Convenor to ensure that students will achieve learning that suits the objectives of this unit. Further, all projects must be assessed for Work, Health, and Safety and agreements with all partners formalised. The PACE team in the Faculty of Science will advise and assist in regards to the latter.

Pace and Reflective Learning

In terms of reflective learning, the Final Report and presentation for this unit requires students to reflect on the successes and failuresof their ENV301 project. To help facilitate this process of reflection, students will have the opportunity to access to a Reflection module through iLearn during the period of the unit (in advance of students commencing the Final Report). This module consists of videos involving students and staff on the subject of reflection, as well as readings and on-line activities that can help prepare students for their own reflection. The link to the module is here: http://staff.mq.edu.au/teaching/curriculum_development/pace/resources/pace-reflection/

Referencing and citations

Referencing and Citations

There are various types of referencing styles. They differ markedly between journals and journal types: medical science journals differ from law journals, which differ again from science journals.

The referencing style in Environmental Pollution is appropriate for this unit. It is simple and clear.

Please format ALL assignments using the method detailed in the published journal articles:

http://www.sciencedirect.com/science/journal/02697491

Reference style

Name and year style in the text Text:

All citations in the text should refer to:

1. *Single author:* the author's name (without initials, unless there is ambiguity) and the year of publication;

2. *Two authors:* both authors' names and the year of publication;

3. *Three or more authors:* first author's name followed by 'et al.' and the year of publication. Citations may be made directly (or parenthetically). Groups of references should be listed first alphabetically, then chronologically. Examples: "as demonstrated (Allan, 1996a, 1996b, 1999; Allan and Jones, 1995). Kramer et al. (2000) have recently shown ..."

List:

References should be arranged first alphabetically and then further sorted chronologically if necessary. More than one reference from the same author(s) in the same year must be identified by the letters "a", "b", "c", etc., placed after the year of publication. Note that any (consistent) reference style and format may be used: the Publisher will ensure that the correct style for this journal will be introduced for the proof stages, the final print version and the PDF files for

electronic distribution.

Examples:

Reference to a journal publication:

Van der Geer, J., Hanraads, J.A.J., Lupton, R.A., 2000. The art of writing a scientific article. Journal of Scientific Communications 163, 51-59.

Reference to a book:

Strunk Jr., W., White, E.B., 1979. The Elements of Style, third ed. Macmillan, New York.

Reference to a chapter in an edited book:Mettam, G.R., Adams, L.B., 1999. How to prepare an electronic version of your article, in: Jones, B.S., Smith, R.Z. (Eds.), Introduction to the Electronic Age. E-Publishing Inc., New York, pp. 281-304.

Reference to a URL:

NTP (National Toxicology Program), 2012. National Toxicology Program Monograph on Health Effects of Low-level Lead. U.S. Department of Health and Human Services. June 13th, 2012. http://ntp.niehs.nih.gov/NTP/ohat/Lead/Final/ MonographHealthEffectsLowLevelLead_prepublication_508.pdf (accessed 19.11.12.).

Safety and Ethics

New work health and safety (WHS) laws replaced the occupational health and safety (OHS) laws in NSW on 1 January 2012. Macquarie University is committed to ensuring the Health and Safety of our students. Macquarie University has implemented stringent WHS practises and systems to manage work health and safety risks. Whilst the responsibility for ensuring the health and safety of students rests with the University, students also have a responsibility to ensure that they comply with WHS policies and that their acts do not cause harm to themselves or others. Students should also be aware that these considerations extend beyond the classroom to their Participation activities and all engagement with the community. While all community partners of Macquarie University must meet both ethical and WHS standards, students also have a role to play in the compliance of the WHS Act while carrying out their Participation activities. Students should therefore familiarise themselves with the University's WHS website as well as relevant information made available through the Faculty of Science:

http://staff.mq.edu.au/human_resources/health_and_safety/

http://web.science.mq.edu.au/intranet/ohs/

Ethics issues apply to those whose projects involve:

- the care and use of animals
- human participants (including questionnaires, surveys and interviews)
- biosafety issues, such as recombinant DNA, or
- potentially infectious and/or hazardous agents

If applicable, you must check the ethics committee websites (Animal Ethics, Biosafety, Ethics

Review and Ethical Research) at http://www.research.mq.edu.au/for/researchers/ how_to_obtain_ethics_approval and if in doubt, consult your internal supervisor, the University Research Ethics Officer or me.

Unit Overview

No matter whether you trained as an environmental scientist or an environmental manager, in all likelihood you will be managing the environment in some way in your professional career. Society's ability to prevent environmental degradation and remediate environments that are already degraded is crucial to the quality of life our children and we will lead. In many ways you should consider these roles to be as important, or ultimately even more important, than contributions from the 'captains of industry'. This is not an anti-development stance, particularly since some would argue that the statement "no economy without environment" is also quite apt.

Your ability to manage the environment wisely and appropriately will depend upon a sound training in some aspect of science or society - but no one person can be an expert in all fields. You might be best placed to manage people, training schemes, galvanise the community through volunteer programs or fund raising. You might be an environmental atmosphericist, biologist, chemist, geologist or geomorphologist who can monitor and engineer environmental health, or you might use your skills in other ways. However, what is clear, is the need to be able to identify and research specific problems that exist (or may occur in the future), and liaise with others in the course of solving those problems. That's what this unit is mainly about.

Another aspect of this unit is forging links with industry and future colleagues. We hope that in the course of this unit you may make contacts that will lead to your employment. At the very least, you will make links with your peers. Look around you in the classroom. In coming years, your classmates might be prominent scientists in the community, or they might be directors of companies or other organisations. They might be councillors or members of parliament. You might need the contacts they provide, for information exchange, collaboration or employment. Don't waste this opportunity to forge links with your peers!

ENV301 builds on the principles, too numerous to name here, contained within a whole range of units you will already have taken as part of the 39 cp pre-requisite. I hope that ENV301 will be a learning experience that will hold you in very good stead during the transition from student to employee.

Changes since First Published

Date	Description
04/08/2014	Typographical edits.