



ENVS3238

Environmental Quality and Assessment

Session 2, Weekday attendance, North Ryde 2021

Archive (Pre-2022) - Department of Earth and Environmental Sciences

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Session 2 Learning and Teaching Update

The decision has been made to conduct study online for the remainder of Session 2 for all units WITHOUT mandatory on-campus learning activities. Exams for Session 2 will also be online where possible to do so.

This is due to the extension of the lockdown orders and to provide certainty around arrangements for the remainder of Session 2. We hope to return to campus beyond Session 2 as soon as it is safe and appropriate to do so.

Some classes/teaching activities cannot be moved online and must be taught on campus. You should already know if you are in one of these classes/teaching activities and your unit convenor will provide you with more information via iLearn. If you want to confirm, see the list of [units with mandatory on-campus classes/teaching activities](#).

Visit the [MQ COVID-19 information page](#) for more detail.

General Information

Unit convenor and teaching staff

Convenor, lecturer, tutor

Damian Gore

damian.gore@mq.edu.au

Contact via Email, Zoom, in person

12 WW 425

By email appointment

Credit points

10

Prerequisites

(130cp at 1000 level or above) including (ENVE266 or ENVS266 or ENVS2266 or GEOS266)

Corequisites

Co-badged status

Unit description

Understanding and protecting the environment are key goals for environmental scientists and managers. This unit integrates the knowledge students have gained during their studies, and develops critical professional skills in the assessment of environmental quality and the application of environmental protection tools and processes. This unit assesses environmental health using current practice qualitative and quantitative methods for the measurement of soils, sediments, waters and biota. Students undertake classroom, field and laboratory studies which provide practical experience and develop their knowledge and assessment of environmental impacts, rehabilitation and management. A field trip in the first week of the mid session break gives students practical experience of sites such as legacy mines. This unit prepares graduates for employment in environmental consulting and local, state and federal government workplaces. Students will also prepare material to assist with their transition to the workplace.

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:

ULO1: identify knowledge gaps and develop plans for contaminated site investigation, to

develop professional skills.

ULO3: collate multiple lines of evidence and apply regulatory frameworks for environmental decision making, in order to create professional-level studies.

ULO2: describe analytical methods and apply quality assurance/quality control programs for environmental analyses, to ensure the accuracy of sampling and analytical programs.

ULO4: create remediation action plans, in order to plan to remediate contaminated environments.

ULO5: convey a personal professional profile via portfolio and written communication skills, in order to develop the ability to convey information concisely and accurately.

General Assessment Information

Assessment Criteria

Assessment at Macquarie University is standards-based, as outlined in the Assessment Policy. This means that your work will be assessed against clear criteria, and these criteria will be made available when the assessment tasks are released to you on iLearn.

Submission of Assessments

(1) Your written assignments must be submitted online through Turnitin, unless otherwise instructed during the unit. (2) Your final exam will be administered on the fieldtrip (Covid and weather permitting).

Links for the submission of the written assignments will be available on iLearn. Due dates for all assessment tasks are in the unit schedule. If you have commitments that will significantly impact your study during the session then you must plan for this in advance as part of an effective individual study plan.

Marking of Assessments

Your written assignments will be marked through Turnitin and feedback will be noted on the assignments. Do not submit your written assignments via email or in hard copy without prior arrangement. Your assignment grade will be returned using the Grades Report on iLearn. We aim to return your assignments with feedback within 2-3 weeks of the date that you submit your assignment. We appreciate your patience and will advise you through iLearn when your marked assignments and feedback are available for viewing.

Penalties for Late Assessments

The penalty for late submission of assessments in this unit is 10 % of the assessment value per day, calculated from the due time and date. This means that, since the written assignment is worth 20 marks (20 % of the unit) you will lose 2 marks for each day late. This penalty is designed to make you aware of the importance of organising yourself around assessment due dates, and it helps ensure equity for all students. The penalty will be applied over weekdays and weekends unless you have been granted an extension by the unit convenor prior to the due date.

Extensions for Assessments

To obtain an extension for an assessment task, you will need to follow the formal process outlined in the Special Consideration Policy, and you must provide appropriate supporting documentation (e.g. medical certificate - see advice for Special Consideration Requests). The final decision regarding the granting of an extension or a late penalty lies with the unit convenor. Seek permission for an extension well before the due date unless this is absolutely impossible. Let us know of problems in advance or as soon as possible, not after the event. We are likely to be much more sympathetic and flexible in our requirements if you follow this advice.

Final Examination

The final examination will be held in class time in the field, during the mid-session fieldtrip. If there is bad weather, or if Covid prevents fieldwork, then we may delay until we are back on campus or somewhere else with shelter from the weather.

Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Professional portfolio</u>	20%	No	Week 3: 1700 h, 11 Aug 2021
<u>In-Class exam</u>	40%	No	Mid-session break: 17 Sep 2021
<u>Field and laboratory investigation with Remediation Action Plan</u>	40%	No	Week11: 1700 h, 20 Oct 2021

Professional portfolio

Assessment Type ¹: Portfolio

Indicative Time on Task ²: 10 hours

Due: **Week 3: 1700 h, 11 Aug 2021**

Weighting: **20%**

Portfolio consisting of a Curriculum Vitae and a LinkedIn profile.

On successful completion you will be able to:

- convey a personal professional profile via portfolio and written communication skills, in order to develop the ability to convey information concisely and accurately.

In-Class exam

Assessment Type ¹: Examination

Indicative Time on Task ²: 28 hours

Due: **Mid-session break: 17 Sep 2021**

Weighting: **40%**

Final examination to be undertaken within class time.

On successful completion you will be able to:

- identify knowledge gaps and develop plans for contaminated site investigation, to develop professional skills.
- collate multiple lines of evidence and apply regulatory frameworks for environmental decision making, in order to create professional-level studies.
- describe analytical methods and apply quality assurance/quality control programs for environmental analyses, to ensure the accuracy of sampling and analytical programs.
- create remediation action plans, in order to plan to remediate contaminated environments.

Field and laboratory investigation with Remediation Action Plan

Assessment Type ¹: Plan

Indicative Time on Task ²: 40 hours

Due: **Week11: 1700 h, 20 Oct 2021**

Weighting: **40%**

Field and laboratory investigation with Remediation Action Plan. Following from the literature review, fieldwork will be conducted and samples taken and analysed. The data will be used to formulate a Remediation Action Plan for the site.

On successful completion you will be able to:

- identify knowledge gaps and develop plans for contaminated site investigation, to develop professional skills.
- collate multiple lines of evidence and apply regulatory frameworks for environmental decision making, in order to create professional-level studies.
- describe analytical methods and apply quality assurance/quality control programs for environmental analyses, to ensure the accuracy of sampling and analytical programs.
- create remediation action plans, in order to plan to remediate contaminated environments.

- convey a personal professional profile via portfolio and written communication skills, in order to develop the ability to convey information concisely and accurately.

¹ If you need help with your assignment, please contact:

- the academic teaching staff in your unit for guidance in understanding or completing this type of assessment
- the [Writing Centre](#) for academic skills support.

² Indicative time-on-task is an estimate of the time required for completion of the assessment task and is subject to individual variation

Delivery and Resources

Required and Recommended Texts and/or Materials

The freely-available textbook set for this unit, which is archived on the iLearn site, is; Lottermoser, B.G. 2010. Mine Wastes. Characterization, Treatment and Environmental Impacts. 3rd edition. Springer, Heidelberg, 400 pp.

Other recommended readings for each week will be noted on the iLearn site.

Technology Used and Required

This unit will use iLearn and associated technology. See the Instructions on how to log in to iLearn and the iLearn quick guides for students which will help you;

- Getting started - Find out how to navigate and familiarise yourself with the iLearn environment
- Activities - Learn how to effectively complete the activities required of you in iLearn
- Assessments and Gradebook - Find out how to submit assessments and view your grades using iLearn
- Online study tips
- Discussion fora - Explore the different types, and features of discussion fora in iLearn

Computer-Based Learning

Essential computer-based components of this unit include lectures recorded through Zoom, weekly practical exercises (not all weeks - refer to the unit schedule), and online discussion fora for communicating with staff and other students in this unit. You can undertake this work on- or off-campus, including through the computer laboratories (when they are not booked for classes) or in the Library. If you're unsure of how to connect to the internet or use the computer system, help can be obtained at; <http://students.mq.edu.au/support/>.

General Discussion Forum and Announcements

The "General Discussion Forum" link on the unit's homepage is used to discuss important issues related to the unit. You are expected to read every posting to the discussion forum because

important administrative and academic information will be posted there - it is your responsibility to stay up to date. Unit-wide announcements will also be shared through the Announcements function in iLearn.

What is Required to Complete This Unit Satisfactorily?

You must receive a unit mark of at least 50 % to pass this unit. In order to receive a Pass grade, you should spend around 11 h per week on this unit in weeks 1-7, which includes lectures, practicals, reading and assessment preparation and completion. On top of that, around 50 hours for the field work and 40 hours for the final assessment. However, keep in mind, grades are awarded on a demonstration of your understanding and ability, not on time or effort!

All lectures are recorded and available online. Lectures provide the framework with which to focus your study of the subject and they are essential for you to engage with. You should supplement them by reading, especially from the text, but also from current journals, which contain the most up-to-date information. All lecture material is assessable in the quizzes or final examination. Please complete those before you attempt a relevant practical.

You should participate in six 2 h practicals held each week, at times stipulated by the timetable. **Please refer to the iLearn site for that schedule.** Each student should complete all practical sessions.

You should complete the full unit workload, and you may need to spend extra time on different parts of the unit content. Classroom and practical workload will be spread over the first half of the session, fieldwork in the mid-session break, and a major assessment in the second half of the session. Knowing this will help you manage your time effectively throughout the session and work around your other units and commitments.

In this unit we expect quality in your assignments and a level of knowledge and comprehension of unit content in the assessment tasks. Grades for each assessment task and the unit as a whole will be awarded according to the following general criteria (course rubric);

	Developing	Functional	Proficient	Advanced
	Has not yet reached the desired standard. A Fail grade would be given.	Has reached basic academic standards. A Pass grade would be awarded.	Has completely reached the standards expected. A Credit would be awarded.	Has gone beyond the expected standard. A grade of Distinction or High Distinction would be awarded.
	Limited understanding of required concepts and knowledge.	Can accurately reproduce required facts, but has limited depth of understanding of basic concepts.	Exhibits breadth and depth of understanding. Uses terminology accurately in new contexts and transfers ideas to new situations.	Exhibits breadth and depth of understanding of concepts. Can engage in productive critical reflection.

	Developing	Functional	Proficient	Advanced
	Data analysis skills are limited.	Data analysis skills are largely descriptive with limited capacity to combine multiple factors.	Can synthesise data and critique the value and importance of scientific arguments.	Data analysis is sophisticated and is capable of placing examples in context of big ideas, problems and solutions.
	Uses immediately available information without discretion.	Can select useful information. Does not always discriminate between types of sources of information.	Independently selects useful information and can discriminate between types of sources of information.	Independently selects useful information and can critically discriminate between types of sources of information.
	Poor written communication skills (e.g. spelling and grammar). Does not demonstrate an understanding of what is expected in assignment writing and presentation.	Communicates ideas adequately in writing. Adheres to most basic requirements for written work and assignment presentation.	Communicates effectively and clearly in writing. Adheres to all expectations of assignment writing and presentation.	Communicates adeptly in writing. Adheres to all expectations of assignment writing.

LECTURES

Lectures will be available on iLearn at the start of the week in which they are scheduled. **All lectures will be online and you do not have to "attend" a lecture.** You should supplement lectures by reading, especially from the textbook, but also from the current journals, which contain the most up-to-date information. The iLearn site contains suggested readings, but please don't limit yourself to those. Lectures are available through iLearn <https://ilearn.mq.edu.au/login>.

PRACTICALS

Practicals will be held on Wednesdays, in rooms stipulated by the timetable or laboratories as the practicals require. Practical classes will contain a mixture of online components where required, or in the laboratory or classroom. I'll supply more information on iLearn.

Each student **must attend** all practical sessions. Practical classes contain material to supplement the lectures, or comprise exercises which give you skills to help with your understanding of the unit topics, fieldwork or the workplace. All practical material is assessable in the quizzes or final examination. Practical classes provide greater depth to related lecture materials and will assist learning by encouraging your active participation. Important material for the practical classes may be included on iLearn: check the weekly folders. The venue of the practical classes varies (see iLearn). You must wear appropriate clothes for the laboratory: closed toe shoes where no part of your foot is visible (imagine dropping a rock on your foot - choose the footwear you'd like to have should that happen).

FIELDWORK

There is one compulsory mid-session fieldtrip for all students. This fieldwork forms an essential

component of this unit. We will conduct assessments and propose remediation plans (if necessary) for contaminated sites outside of the Sydney Basin. For this, we will survey and collect soil and water samples. You will measure the elemental compositions of the soil on site, and I will measure (back at the MQU laboratories) the elemental compositions of the water, and perhaps soil mineralogy. You will then use all of this information – collected by all students, or me – to write your major report. There is also a compulsory fieldtrip in Week 8, to help your understanding of WSUD and stormwater management.

On fieldwork, there are professional standards to adhere to for use of PPE. Everyone should have sturdy footwear - no running shoes or other inadequately protective shoes (but you don't need steel caps). You will wear hi-vis tops - either your own hi-vis shirts or a vest that I will supply. Your shirts will have a collar - no t-shirts. Long sleeves, and a hat with a wide brim - no baseball caps. Shorts or long pants are OK. Gloves as required by the task you are conducting (I can supply nitrile gloves). Safety glasses as required by the task you are conducting (I can supply these). In summary, **no sleeves, no collar, no hat, no sturdy shoes = no work.**

ASSESSMENTS

There are three assessments overall with percentage weightings as described above.

Unit Schedule

Due to Covid-19-related changes to the unit schedule, an up to date version will be placed on iLearn. However, the unit content will include the following lectures and activities. Please note this is not a weekly schedule.

Lectures	Activities
L1: Introduction to contaminated sites	P1: CV & LinkedIn notes (Zoom)
L2: Understanding and remediating inorganic contaminants	P2: Industry presentation
L3: Understanding and remediating organic contaminants	P3: QA/QC
L4: Hydrogeology, WSUD & stormwater	P4: Environmental mineralogy
L5: Landfills, asbestos and unconventional energy	P5: Fieldwork preparation
L6: Mining impacts	P6: WSUD & stormwater (field)
	7 day field trip

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central \(https://policies.mq.edu.au\)](https://policies.mq.edu.au). 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](#)

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

To find other policies relating to Teaching and Learning, visit [Policy Central](https://policies.mq.edu.au) (<https://policies.mq.edu.au>) and use the [search tool](#).

Student Code of Conduct

Macquarie University students have a responsibility to be familiar with the Student Code of Conduct: <https://students.mq.edu.au/admin/other-resources/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 help you improve your marks and take control of your study.

- [Getting help with your assignment](#)
- [Workshops](#)
- [StudyWise](#)
- [Academic Integrity Module](#)

The Library provides online and face to face support to help you find and use relevant information resources.

- [Subject and Research Guides](#)
- [Ask a Librarian](#)

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.

Changes since First Published

Date	Description
19/07/2021	Reference to SGTA updated.
13/07/2021	Schedule updated.