



ENVS3238

Environmental Quality and Assessment

Session 2, Special circumstance 2020

Department of Earth and Environmental Sciences

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Disclaimer

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Notice

As part of [Phase 3 of our return to campus plan](#), most units will now run tutorials, seminars and other small group learning activities on campus for the second half-year, while keeping an online version available for those students unable to return or those who choose to continue their studies online.

To check the availability of face-to-face and online activities for your unit, please go to [timetable viewer](#). To check detailed information on unit assessments visit your unit's iLearn space or consult your unit convenor.

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 ENV5266 or ENV52266 or GEOS266) and (ENVE339 or ENV5339 or ENV53239 or ENVE340 or ENV5340 or ENV53240 or ENVE341 or ENV5341 or ENV53241)]

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 derelict 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.

ULO2: describe analytical methods and apply quality assurance/quality control programs for environmental analyses.

ULO3: collate multiple lines of evidence and apply regulatory frameworks for environmental decision making.

ULO4: create remediation action plans.

ULO5: convey a personal professional profile via portfolio and written communication skills.

Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Professional portfolio</u>	15%	No	11/08/20
<u>Literature review</u>	15%	No	08/09/20
<u>Field and laboratory investigation with Remediation Action Plan</u>	30%	No	13/10/20
<u>Final examination</u>	40%	No	Date TBA

Professional portfolio

Assessment Type ¹: Portfolio

Indicative Time on Task ²: 8 hours

Due: **11/08/20**

Weighting: **15%**

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.

Literature review

Assessment Type ¹: Literature review

Indicative Time on Task ²: 15 hours

Due: **08/09/20**

Weighting: **15%**

This will be the first component of a Remediation Action Plan. It will be developed prior to field or laboratory work and will focus on the area to be visited.

On successful completion you will be able to:

- identify knowledge gaps and develop plans for contaminated site investigation.
- describe analytical methods and apply quality assurance/quality control programs for environmental analyses.
- collate multiple lines of evidence and apply regulatory frameworks for environmental decision making.
- create remediation action plans.
- convey a personal professional profile via portfolio and written communication skills.

Field and laboratory investigation with Remediation Action Plan

Assessment Type ¹: Plan

Indicative Time on Task ²: 25 hours

Due: **13/10/20**

Weighting: **30%**

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.
- describe analytical methods and apply quality assurance/quality control programs for environmental analyses.
- collate multiple lines of evidence and apply regulatory frameworks for environmental decision making.
- create remediation action plans.
- convey a personal professional profile via portfolio and written communication skills.

Final examination

Assessment Type ¹: Examination

Indicative Time on Task ²: 30 hours

Due: **Date TBA**

Weighting: **40%**

Final examination at a time set by the University timetable

On successful completion you will be able to:

- identify knowledge gaps and develop plans for contaminated site investigation.
- describe analytical methods and apply quality assurance/quality control programs for environmental analyses.
- collate multiple lines of evidence and apply regulatory frameworks for environmental decision making.
- create remediation action plans.

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

LECTURES

A two hour lecture will be held on Tuesdays in Weeks 1-6, from 0900-1100 h. **All lectures will be online.** Lectures provide the framework with which to focus your study of the subject and are essential for you to engage with. You should supplement them 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/MQ>.

PRACTICALS

Practicals will be held on Tuesdays in Weeks 1-6, from 1200 - 1500 h, in rooms stipulated by the timetable or laboratories as the practicals require. The practicals will contain a mixture of online components where possible, and in the laboratory or classroom where I think that I can't get the

message across online. I'll supply more information on iLearn.

Each student **should attend** all practical sessions. Practicals may contain material to supplement the lectures, or comprise practical exercises to give you skills to help with fieldwork and/or the workplace. Practicals provide greater depth to related lecture materials and will assist learning by encouraging your active participation. The venue of the practical classes varies (see iLearn). Important material for the practical classes is included on 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, to the area south of Cowra: Group 1 is 12-15 Sep, and Group 2 is 15-18 Sep. This fieldwork forms an essential component of this unit. We will conduct an audit and propose a remediation plan (if necessary) of a ~10 ha area rehabilitated mine about 330 km southwest of Sydney, at Frogmore, south of the central NSW town of Cowra. 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.

ASSESSMENTS

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

Unit Schedule

Week	Lecture	Practical
1	Introduction to contaminated sites	Industry guests
2	Understanding and remediating inorganics	QA/QC
3	Understanding and remediating organics	Mineralogy
4	Hydrogeology	Hydrogeology
5	Landfills and unconventional energy	Barriers
6	Mining	Field site introduction
	Fieldwork. Group 1: 12-15 Sep, Group 2: 15-18 Sep	
8	Drop in for field data help	

Policies and Procedures

Macquarie University policies and procedures are accessible from [Policy Central](https://staff.m) (<https://staff.m>

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.*)

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](http://staff.mq.edu.au/work/strategy-planning-and-governance/university-policies-and-procedures/policy-central) (<http://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 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.