



GEOS3910

Advanced Earth and Environmental Sciences III

Session 2, Weekday attendance, North Ryde 2020

Department of Earth and Environmental Sciences

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>	6
<u>Policies and Procedures</u>	6

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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

Olivier Alard

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Credit points

10

Prerequisites

120cp including ((GEOS1910 or GEOS188) and (20cp(D) of GEOS or ENVS or ENV units at 2000 level)) and admission to BAdvSc and permission by special approval

Corequisites

Co-badged status

Unit description

This unit caters for students who are strong in Earth and Environmental sciences and who are interested in pursuing a scientific career in this discipline. It aims to encourage outstanding students to reach their full potential by helping them prepare for professional contexts through a research-based internship. This activity will be conducted either in collaboration with a research facility at MQ or an external partner organisation. Students will produce a scientific report, reflect on their overall learning in the program as well as experience through this unit, and give a presentation on their findings. Students will also be encouraged to mentor first year advanced Earth and Environmental students, and engage in activities within the broader department as part of their learning through participation in this unit.

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: Demonstrate understanding of the basics behind data collection and manage a research project in the field of Earth and Environmental Sciences.

ULO2: Communicate matters relevant to Earth and Environmental Sciences.

ULO3: Write up research results to the level of a scholarly journal article as is expected of a scientific career in Earth and Environmental Sciences.

ULO4: Apply Earth and Environmental Sciences theory to practical experience as part of

undertaking successful research.

ULO5: Work effectively within a Earth and Environmental Sciences environment and appreciate the role that Earth and Environmental Sciences has within the community.

General Assessment Information

ASSESSMENT 1

1.a., Professional Practice & Risk Assessment

Students will complete an introduction to professional practice and a risk assessment of their placement with the help of the suitable professional staff(s).

1.b, Reflective Journal

Students will keep a reflective journal of their research.

ASSESSMENT 2 - Annotated Bibliography

An annotated bibliography of a selected research topic or question based on 5 to 10 peer-reviewed publications, ≈500 words per publications.

Each student has to select a topic relevant to the unit on which a ~15-20 minute long oral presentation will be given to the academic staff on the unit, and other invited EES researchers and of course your fellow students.

- Present ideas clearly with supporting evidence.
- Read, interpret and discuss major contributions to earth and environmental science research published in the peer-reviewed literature

ASSESSMENT 3 - Oral Presentation

On successful completion you will be able to:

- Read, interpret and discuss major contributions to earth and environmental science research published in the peer-reviewed literature.
- Present ideas clearly with supporting evidence.

ASSESSMENT 4

Research Report

The aim of this assignment is to undertake research on a specific problem and produce a scientific report about that research. The student will be embedded into a research group and work as part of that team.

On successful completion you will be able to:

- Read, interpret and discuss major contributions to earth and environmental science

research published in the peer-reviewed literature.

- Evaluate how the experimental design and approach of earth and environmental science studies influences the soundness and impact of conclusions.
- Write a short review paper on a topic in earth and environmental science for a non-specialist audience.
- Present ideas clearly with supporting evidence.
- Apply knowledge to solve problems and evaluate ideas and information.
- Demonstrate the ability to write a scientific report.

Assessment Tasks

Name	Weighting	Hurdle	Due
<u>Professional Practice, Risk Assessment, and Reflective Journal</u>	20%	Yes	week 3
<u>Annotated Bibliography</u>	10%	Yes	Week 7
<u>Oral Presentation</u>	20%	Yes	week 13
<u>Research Report</u>	50%	Yes	Week 13

Professional Practice, Risk Assessment, and Reflective Journal

Assessment Type ¹: Participatory task

Indicative Time on Task ²: 20 hours

Due: **week 3**

Weighting: **20%**

This is a hurdle assessment task (see [assessment policy](#) for more information on hurdle assessment tasks)

Students will complete an introduction to professional practice and a risk assessment of their placement. Students will keep a reflective journal of their research.

On successful completion you will be able to:

- Demonstrate understanding of the basics behind data collection and manage a research project in the field of Earth and Environmental Sciences.
- Work effectively within a Earth and Environmental Sciences environment and appreciate

the role that Earth and Environmental Sciences has within the community.

Annotated Bibliography

Assessment Type ¹: Annotated bibliography

Indicative Time on Task ²: 20 hours

Due: **Week 7**

Weighting: **10%**

This is a hurdle assessment task (see [assessment policy](#) for more information on hurdle assessment tasks)

An annotated bibliography of a research topic or question.

On successful completion you will be able to:

- Communicate matters relevant to Earth and Environmental Sciences.

Oral Presentation

Assessment Type ¹: Presentation

Indicative Time on Task ²: 20 hours

Due: **week 13**

Weighting: **20%**

This is a hurdle assessment task (see [assessment policy](#) for more information on hurdle assessment tasks)

Each student will give a ~15-20 minute long oral presentation of their research work to the academic staff on the unit, and other invited Earth and Environmental Science researchers and of course your fellow students.

On successful completion you will be able to:

- Communicate matters relevant to Earth and Environmental Sciences.

Research Report

Assessment Type ¹: Report

Indicative Time on Task ²: 75 hours

Due: **Week 13**

Weighting: **50%**

This is a hurdle assessment task (see [assessment policy](#) for more information on hurdle assessment tasks)

A research report based on research undertaken with an Earth and Environmental Science academic staff member, or a government scientist.

On successful completion you will be able to:

- Demonstrate understanding of the basics behind data collection and manage a research

project in the field of Earth and Environmental Sciences.

- Communicate matters relevant to Earth and Environmental Sciences.
- Write up research results to the level of a scholarly journal article as is expected of a scientific career in Earth and Environmental Sciences.
- Apply Earth and Environmental Sciences theory to practical experience as part of undertaking successful research.
- Work effectively within a Earth and Environmental Sciences environment and appreciate the role that Earth and Environmental Sciences has within the community.

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

Please see Unit Outline in iLearn and the announcements section for up to date delivery and resource information

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.*)

Students seeking more policy resources can visit the [Student Policy Gateway \(https://students.mq.edu.au/unit_offerings/123961/unit_guide/print\)](https://students.mq.edu.au/unit_offerings/123961/unit_guide/print)

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.