



# ENVS2237

## Natural Hazards, Disasters and their Management

Session 2, Fully online/virtual 2021

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

### Contents

---

<a href="#"><u>General Information</u></a>	3
<a href="#"><u>Learning Outcomes</u></a>	3
<a href="#"><u>Assessment Tasks</u></a>	4
<a href="#"><u>Delivery and Resources</u></a>	6
<a href="#"><u>Unit Schedule</u></a>	8
<a href="#"><u>Policies and Procedures</u></a>	9

#### **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.

#### **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

Unit convenor, lecturer, tutor

Damian Gore

[damian.gore@mq.edu.au](mailto:damian.gore@mq.edu.au)

Contact via Email

12 Wallys Walk, Room 425

By appointment

Credit points

10

Prerequisites

60cp at 1000 level or above

Corequisites

Co-badged status

Unit description

*This unit has an online offering for S2 which is **synchronous**, meaning there will be set times to attend online lectures and tutorials.*

The importance of natural hazards and their impacts is growing as population increases and the world is increasingly overshadowed by a changing climate. Natural hazards include those from the solid earth, such as earthquakes and volcanoes; weather-related impacts from floods, tropical cyclones, drought and bushfires; biohazards; and rarer 'megahazards' such as asteroid impacts. The impacts from natural hazards can cause humanitarian disasters and cost billions of dollars. But what are the most important hazards, and where do the disasters occur? How can we manage and reduce disaster impacts? This unit approaches natural hazards via an understanding of how they occur, what they do and how we can mitigate their impacts. This approach allows future societies to be more resilient to the impacts of natural hazards.

## 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:** Explain concepts of hazard, vulnerability and risk to inform professional, managerial and lay audiences of risk and risk management.

**ULO2:** Assess the key spatial and temporal patterns and processes by which natural hazards and disasters occur to help understand and quantify risk at any particular location.

**ULO3:** Describe the physical, economic and social consequences of natural hazards to help understand and quantify vulnerability and risk.

**ULO4:** Explain critical pathways between natural hazards and their impacts to help understand the complexity of disasters and their management.

**ULO5:** Demonstrate written communication skills to present relevant material for diverse audiences, including government and community.

## Assessment Tasks

Name	Weighting	Hurdle	Due
<a href="#">Practical quizzes</a>	40%	No	Weeks 3, 5, 9, 12, 13
<a href="#">Natural hazards and disasters</a>	20%	No	0900 h, 06 Sep 21
<a href="#">Final examination</a>	40%	No	Final examination period

### Practical quizzes

Assessment Type <sup>1</sup>: Quiz/Test

Indicative Time on Task <sup>2</sup>: 30 hours

Due: **Weeks 3, 5, 9, 12, 13**

Weighting: **40%**

Quizzes based on the outcomes from the practicals.

On successful completion you will be able to:

- Explain concepts of hazard, vulnerability and risk to inform professional, managerial and lay audiences of risk and risk management.
- Assess the key spatial and temporal patterns and processes by which natural hazards and disasters occur to help understand and quantify risk at any particular location.
- Describe the physical, economic and social consequences of natural hazards to help understand and quantify vulnerability and risk.

- Explain critical pathways between natural hazards and their impacts to help understand the complexity of disasters and their management.

## Natural hazards and disasters

Assessment Type **1**: Essay

Indicative Time on Task **2**: 20 hours

Due: **0900 h, 06 Sep 21**

Weighting: **20%**

A written piece linking topical natural hazards with disasters. A range of sub-topics will be offered based on recent world events.

On successful completion you will be able to:

- Explain concepts of hazard, vulnerability and risk to inform professional, managerial and lay audiences of risk and risk management.
- Assess the key spatial and temporal patterns and processes by which natural hazards and disasters occur to help understand and quantify risk at any particular location.
- Describe the physical, economic and social consequences of natural hazards to help understand and quantify vulnerability and risk.
- Explain critical pathways between natural hazards and their impacts to help understand the complexity of disasters and their management.
- Demonstrate written communication skills to present relevant material for diverse audiences, including government and community.

## Final examination

Assessment Type **1**: Examination

Indicative Time on Task **2**: 30 hours

Due: **Final examination period**

Weighting: **40%**

Final examination at a time set by the University timetable

On successful completion you will be able to:

- Explain concepts of hazard, vulnerability and risk to inform professional, managerial and lay audiences of risk and risk management.

- Assess the key spatial and temporal patterns and processes by which natural hazards and disasters occur to help understand and quantify risk at any particular location.
  - Describe the physical, economic and social consequences of natural hazards to help understand and quantify vulnerability and risk.
  - Explain critical pathways between natural hazards and their impacts to help understand the complexity of disasters and their management.
  - Demonstrate written communication skills to present relevant material for diverse audiences, including government and community.
- 

<sup>1</sup> 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.

<sup>2</sup> 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; Middelmann, M.H. (Editor) (2007) Natural Hazards in Australia. Identifying Risk Analysis Requirements. Geoscience Australia, Canberra. Any 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, which includes lectures, practicals, reading and assessment preparation and completion. However, keep in mind, grades are awarded on a demonstration of your understanding and ability, not on time or effort!

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. The iLearn site contains suggested readings, but please don't limit yourself to those. Lectures will be available by the start of the week in which they are scheduled.

You should participate in one 2 h practical held each week, in Weeks 2-10 and Week 13, at times stipulated by the timetable. All practicals are live online, and are not recorded. The idea is that the practicals consist of tasks that you have to work through individually, but a tutor will be available online throughout the practical to introduce the activity, and to help you work through it. Each student should complete all practical sessions. Practical sessions contain material to supplement the lectures, or comprise exercises which give you skills to help with your understanding of the unit topics and the workplace. All practical material is assessable in the quizzes or final examination. Practical sessions provide greater depth to related lecture materials and will assist learning by encouraging your active participation. Important material for the practical classes is included on iLearn.

You should complete the full unit workload, and you may need to spend extra time on different parts of the unit content. Workload will be spread over the session, but may be concentrated around the time assessment tasks are due. It would help if 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 a general rubric.

Most of the unit content (lectures, practicals, quizzes, written assignment) can be undertaken without you being on campus. We do this because many of you have demonstrated a need for unit content to be delivered in this way, to help you schedule your studies around other commitments, and we hope that ENV52237 delivered in this way is convenient for you.

## Unit Schedule

Week	Lecture	Practical	Assessment
1	L1. Introduction	No practical	
	L2. Hazard & Risk		
2	L3. Earthquakes	P1. Hazard & Risk	
	L4. Volcanic eruptions		
3	L5. Mass movements	P2. Earthquakes	Quiz 1
	L6. Convective storms		
4	L7. Tornadoes	P3. Volcanic eruptions	
	L8. Tropical cyclones		
5	L9. Hail	P4. Tropical cyclones	Quiz 2
	L10. Lightning		
6	L11. Floods	P5. Floods	
	L12. Tsunami		
7	L13. Coastal & Oceanic	P6. Tsunami	Essay, due 0900 h, 06 Sep
	L14. ENSO		
	<b>Mid-session break</b>	<b>Mid-session break</b>	<b>Mid-session break</b>
8	L15. Drought & Extreme heat	P7. ENSO & drought	
	L16. Bushfires		
9	L17. Biohazards & Pandemics	P8. Bushfires	Quiz 3
	L18. Secondary & Technological hazards		
10	L19. Global change & Loss	P9. Pandemics	
	L20. Risk assessment		
11	L21. Vulnerability & Disasters	No practical	
	L22. Emergency management		
12	L23. Social aspects of hazards	No practical	Quiz 4
	L24. Megahazards	P10. Exam revision	
13	L25. Revision		Quiz 5



## 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](https://ask.mq.edu.au) or if you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto: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](https://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](http://ask.mq.edu.au)

If you are a Global MBA student contact [globalmba.support@mq.edu.au](mailto: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/](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.