



ENVS2237

Natural Hazards, Disasters and their Management

Session 2, Online with attendance for exam, North Ryde 2021

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

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Disclaimer

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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

Unit convenor, lecturer, tutor

Damian Gore

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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.

ULO2: assess the key spatial and temporal patterns and processes by which natural hazards and disasters occur.

ULO3: describe the physical, economic and social consequences of natural hazards.

ULO4: explain critical pathways between natural hazards and their impacts.

ULO5: demonstrate written communication skills.

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 assignment must be submitted online through Turnitin, unless otherwise instructed during the unit. (2) Your quizzes are to be completed on iLearn. (3) Your final exam will be administered on campus by the university during the formal examination period.

Links for the submission of each assignment 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 assignment will be marked through Turnitin and feedback will be noted on the assignment. Do not submit your written assignment via email or in hard copy. Your assignment grade will be returned using the Grades Report on iLearn. Grades from your quizzes will also be made available 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 also 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

Details of examination conditions and timetables can be found via the Student Portal. Please note that the final examination period includes weekdays and weekends and all students are expected to complete the examination at the time specified in the timetable. The timetable will be available in Draft form approximately eight weeks before the commencement of the examinations and in Final form four weeks before the commencement of examinations. For unavoidable disruptions during examinations, you should apply for Special Consideration as soon as possible. If a Supplementary Examination is granted as a result of the Special Consideration application, the examination time will be scheduled after the conclusion of the official examination period and you will receive an individual notification one week prior to the examination with the exact date and time of the Supplementary Examination. It is Macquarie University policy to not set early examinations - all students are expected to ensure that they are available until the final day of the official examination period. You are required to download your room and seat number from the examination website before the examination. Further information on this *on campus* examination, which you **must attend in person** to complete unit requirements, is provided below at the end of "Delivery and Resources".

Assessment Tasks

Name	Weighting	Hurdle	Due
Practical quizzes	40%	No	Weeks 3, 5, 9, 12, 13
Natural hazards and disasters	20%	No	0900 h, 06 Sep 21
Final examination	40%	No	Final examination period

Practical quizzes

Assessment Type ¹: Quiz/Test

Indicative Time on Task ²: 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.
- assess the key spatial and temporal patterns and processes by which natural hazards and disasters occur.
- describe the physical, economic and social consequences of natural hazards.
- explain critical pathways between natural hazards and their impacts.

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.
- assess the key spatial and temporal patterns and processes by which natural hazards and disasters occur.
- describe the physical, economic and social consequences of natural hazards.
- explain critical pathways between natural hazards and their impacts.
- demonstrate written communication skills.

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.
- assess the key spatial and temporal patterns and processes by which natural hazards and disasters occur.

- describe the physical, economic and social consequences of natural hazards.
 - explain critical pathways between natural hazards and their impacts.
 - demonstrate written communication skills.
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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; 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 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 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 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.

	Developing	Functional	Proficient	Advanced
	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.
	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.

This unit is "**Online with attendance for exams**". What this means is that 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. The only part of the unit that is on campus is the **final examination**. You must attend a final examination on campus during the formal examination period at the end of session 2.

Unit Schedule

Weekly schedule of lectures, practicals and assessment tasks

Week	Lecture	Practical	Assessment
1	1. Introduction	No practical	
	2. Hazard & risk		
2	3. Earthquakes	1. Hazard & risk	
	4. Volcanic eruptions		

3	5. Mass movements	2. Earthquakes	Quiz 1
	6. Convective storms		
4	7. Tornados	3. Volcanic eruptions	
	8. Tropical cyclones		
5	9. Hail	4. Tropical cyclones	Quiz 2
	10. Lightning		
6	11. Floods	5. Floods	
	12. Tsunami		
7	13. Coastal & Oceanic	6. Tsunami	Essay, due 0900 h, 06 Sep
	14. ENSO		
	Mid-session Break	Mid-session Break	Mid-session Break
8	15. Drought & Extreme heat	7. ENSO & Drought	
	16. Bushfires		
9	17. Biohazards & Pandemics	8. Bushfires	Quiz 3
	18. Secondary & Technological hazards		
10	19. Global change & loss	9. Pandemics	
	20. Risk assessment		
11	21. Vulnerability & disasters	No practical	
	22. Emergency management		
12	23. Social aspects of hazards	No practical	Quiz 4
	24. Megahazards		
13	25. Revision	10. Exam 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 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	Attempted merger of the unit guide from the alternative online offering.