

# EARTHSCI105/105G: Earth's Natural Hazards

Science  
(15 Points)

## Course Prescription

New Zealand experiences many natural hazards caused by the Earth's natural processes through earthquakes, volcanic eruptions, weather bombs, storm surge, tsunami, flooding and wildfires. Focuses on spatial and temporal occurrences of disasters, hazard preparedness and recovery, and societal responses that affect and, sometimes, compound the magnitude of disasters. Case studies are drawn from contemporary and ancient societies.

## Course Overview

This course examines how normal processes of the earth-atmosphere-hydrosphere-space systems result in events that are capable of dealing disastrous blows to humans on the scale of individual lives to civilizations. We will focus on the geologic processes of events such as earthquakes, landslides, volcanic eruptions, floods, hurricanes, tsunami, tornadoes, climate change, and asteroid impacts, and their local, national and global repercussions.

In particular, we will examine the spatial and temporal occurrences of these hazards, methods and processes for hazard preparedness, response and recovery, and the social, economic and policy aspects that affect and, in many cases, compound the magnitude of the disasters associated with these natural phenomena. Case studies are drawn from contemporary and ancient societies.

**\*\*This is a hybrid course with online, pre-recorded lectures and in-person weekly laboratories.\*\***

## Course Requirements

No pre-requisites or restrictions

## Capabilities Developed in this Course

- Capability 1: Disciplinary Knowledge and Practice
- Capability 2: Critical Thinking
- Capability 3: Solution Seeking

Capability 4: Communication and Engagement

Capability 5: Independence and Integrity

Capability 6: Social and Environmental Responsibilities

Graduate Profile: [Bachelor of Science](#)

### Learning Outcomes

By the end of this course, students will be able to:

1. Comprehend the physical processes that create natural hazards and disasters. (Capability 1, 2, 3 and 6)
2. Recognize the risks and impacts associated with natural hazards. (Capability 1, 2, 3 and 6)
3. Recognize solutions for mitigating or minimizing the impact of hazardous events. (Capability 1, 2, 3 and 6)
4. Demonstrate and apply scientific research, analysis, and writing skills. (Capability 1, 2, 3, 4, 5 and 6)
5. Comprehend the basic concepts and terms used in geology, geography, and chemistry. (Capability 1, 2 and 4)

### Assessments

Assessment Type	Percentage	Classification
8 Laboratory Activities	30%	Individual Coursework
2 Tests	30%	Individual Test
Quizzes on assigned readings	20%	Individual Coursework
Final Exam	20%	Individual Examination
4 types	100%	

Assessment Type	Learning Outcome Addressed				
	1	2	3	4	5
8 Laboratory Activities	✓	✓	✓	✓	✓
2 Tests	✓	✓	✓	✓	✓
Quizzes on assigned readings	✓	✓	✓		
Final Exam	✓	✓	✓	✓	✓

### Tuākana

Tuākana Science is a multi-faceted programme for Māori and Pacific students providing topic specific tutorials, one-on-one sessions, test and exam preparation and more. Explore your options at

<https://www.auckland.ac.nz/en/science/study-with-us/pacific-in-our-faculty.html>

<https://www.auckland.ac.nz/en/science/study-with-us/maori-in-our-faculty.html>

As part of the University-wide Tuākana community, The School of Environment Tuākana Programme aims to provide a welcoming learning environment for, and enhance the success of, all of our Māori and Pacific students. We are led by the principles of tautoko (support) and whanaungatanga (connection), and hope you find a home here at the School. Students who have identified as Māori and/or Pacific will receive an invitation to our online portal introducing the Programme, the resources we have available, and how you can get involved.

Māori and Pacific students are encouraged to contact Sonia Fonua ([s.fonua@auckland.ac.nz](mailto:s.fonua@auckland.ac.nz)) or Kimoro Taiepa ([kimoro.taiepa@auckland.ac.nz](mailto:kimoro.taiepa@auckland.ac.nz)) for information about the Tuākana programme.

### Key Topics

- Plate Tectonics
- Pandemics and Epidemics
- Volcanic Eruptions
  
- Earthquakes
  
- Tsunami
  
- Landslides
- Floods
- Cyclonic Storms
- Coastal Erosion
- Thunderstorms and Tornadoes
- Meteorite Impacts
- Wildfires
- Climate Change

### Special Requirements

Attendance and participation in laboratory exercises is required.

### Workload Expectations

This course is a standard 15 point course and students are expected to spend 10 hours per week involved in each 15 point course that they are enrolled in.

For this course, you can expect 2 hours of lectures, a 2 hour laboratory, 3 hours of reading and thinking about the content and 3 hours of work on assignments and/or test preparation.

## Delivery Mode

### Campus Experience

Attendance is required at scheduled activities including labs and tutorials to complete components of the course. This course is hybrid and lectures will be available as online recordings. Other learning activities including labs will not be available as recordings. The course will not include live online events. Attendance on campus is required for the tests and exam. The activities for the course are scheduled as a standard weekly timetable.

## Learning Resources

Course materials are made available in a learning and collaboration tool called Canvas which also includes reading lists and lecture recordings (where available).

Please remember that the recording of any class on a personal device requires the permission of the instructor.

The textbook is required:

Earth's Natural Hazards: Understanding Natural Disasters and Catastrophes

Ukstins & Best, ISBN 1524952842.

## Student Feedback

During the course Class Representatives in each class can take feedback to the staff responsible for the course and staff-student consultative committees.

At the end of the course students will be invited to give feedback on the course and teaching through a tool called SET or Qualtrics. The lecturers and course co-ordinators will consider all feedback.

Your feedback helps to improve the course and its delivery for all students.

Student feedback will be used to guide the structure of the course.

## Other Information

**\*\*This is a hybrid course with online, pre-recorded lectures and in-person weekly laboratories.\*\***

## Academic Integrity

The University of Auckland will not tolerate cheating, or assisting others to cheat, and views cheating in coursework as a serious academic offence. The work that a student submits for grading must be the student's own work, reflecting their learning. Where work from other sources is used, it must be properly acknowledged and referenced. This requirement also applies to sources on the internet. A student's assessed work may be reviewed against online source material using computerised detection mechanisms.

## Class Representatives

Class representatives are students tasked with representing student issues to departments, faculties, and the wider university. If you have a complaint about this course, please contact your class rep who will know how to raise it in the right channels. See your departmental noticeboard for contact details for your class reps.

## Copyright

The content and delivery of content in this course are protected by copyright. Material belonging to others may have been used in this course and copied by and solely for the educational purposes of the University under license.

You may copy the course content for the purposes of private study or research, but you may not upload onto any third party site, make a further copy or sell, alter or further reproduce or distribute any part of the course content to another person.

## Inclusive Learning

All students are asked to discuss any impairment related requirements privately, face to face and/or in written form with the course coordinator, lecturer or tutor.

Student Disability Services also provides support for students with a wide range of impairments, both visible and invisible, to succeed and excel at the University. For more information and contact details, please visit the [Student Disability Services' website](http://disability.auckland.ac.nz) <http://disability.auckland.ac.nz>

## Special Circumstances

If your ability to complete assessed coursework is affected by illness or other personal circumstances outside of your control, contact a member of teaching staff as soon as possible before the assessment is due.

If your personal circumstances significantly affect your performance, or preparation, for an exam or eligible written test, refer to the University's [aegrotat or compassionate consideration page](https://www.auckland.ac.nz/en/students/academic-information/exams-and-final-results/during-exams/aegrotat-and-compassionate-consideration.html) <https://www.auckland.ac.nz/en/students/academic-information/exams-and-final-results/during-exams/aegrotat-and-compassionate-consideration.html>.

This should be done as soon as possible and no later than seven days after the affected test or exam date.

## Learning Continuity

In the event of an unexpected disruption, we undertake to maintain the continuity and standard of teaching and learning in all your courses throughout the year. If there are unexpected disruptions the University has contingency plans to ensure that access to your course continues and course assessment continues to meet the principles of the University's assessment policy. Some adjustments may need to be made in emergencies. You will be kept fully informed by your course co-ordinator/director, and if disruption occurs you should refer to the university website for information about how to proceed.

The delivery mode may change depending on COVID restrictions. Any changes will be communicated through Canvas.

### Student Charter and Responsibilities

The Student Charter assumes and acknowledges that students are active participants in the learning process and that they have responsibilities to the institution and the international community of scholars. The University expects that students will act at all times in a way that demonstrates respect for the rights of other students and staff so that the learning environment is both safe and productive. For further information visit [Student Charter](https://www.auckland.ac.nz/en/students/forms-policies-and-guidelines/student-policies-and-guidelines/student-charter.html) <https://www.auckland.ac.nz/en/students/forms-policies-and-guidelines/student-policies-and-guidelines/student-charter.html>.

### Disclaimer

Elements of this outline may be subject to change. The latest information about the course will be available for enrolled students in Canvas.

In this course students may be asked to submit coursework assessments digitally. The University reserves the right to conduct scheduled tests and examinations for this course online or through the use of computers or other electronic devices. Where tests or examinations are conducted online remote invigilation arrangements may be used. In exceptional circumstances changes to elements of this course may be necessary at short notice. Students enrolled in this course will be informed of any such changes and the reasons for them, as soon as possible, through Canvas.