



A quick guide to undergraduate Ecology

Ecology studies the interaction between animals, plants and microbes, and their environment, as well as the distribution and diversity of life. As an Ecology student at the University of Auckland you'll benefit from our vast biological, environmental and marine knowledge and expertise, as you learn within a multi-disciplinary framework.

Ecology students cover topics such as environmental conservation and management, biosecurity, marine ecology and conservation, evolution and behaviour, and ecological modelling. You'll go on plenty of field trips, which will give you the chance to apply your learning in a real, meaningful way. You'll even study computational, statistical and modelling techniques and learn how they are used to solve ecological problems. The University of Auckland is ranked first in New Zealand for environmental sciences, which includes Ecology*. You can also study Ecology as a pathway in the Biological Sciences major of a Bachelor of Science.

Students intending to study Ecology at the University of Auckland should have a broad background in general sciences and a good understanding of biology and chemistry.

A good basis in mathematics and strong reading and writing skills are also important.

*science.auckland.ac.nz/excellence



Explore and discover everything you need to know about studying
Ecology:
science.auckland.ac.nz/ug-ecology



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What you'll study in your Ecology degree



BAdvSci(Hons)

Topics you can study include:

- Biodiversity and evolution
- Environmental and resource management
- Quantitative ecology and modelling
- Conservation, pest management and restoration

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with an
academic
mentor**



Find out how your degree will be structured
and what courses you need to take at

www.science.auckland.ac.nz/ug-ecology



Abi Hill

Currently studying Ecology and Statistics.

"I grew up tramping and always loved seeing what cool organisms live around us. What budding ecologist hasn't been inspired by David Attenborough?"

"Ecology is unique in that it combines biology, chemistry, environmental science and geography. No matter what your passion within the discipline, there is always more to learn and discover."

"My favourite part of studying Ecology is poking around in the soil looking for invertebrates or rushing off to observe a bird you heard in the distance."

"The best part of my courses are the field trips. I enjoy applying the lecture material and seeing some beautiful places in the North Island at the same time."

"Many assignments have real-world applications. It's stimulating to know that one day you could be writing a report that may have major environmental and policy impacts. Combining curiosity about the natural world and modern technology allows for extraordinary discoveries to be made."

"I'm planning on doing postgraduate study at some point, but I'll take time off next year to work. Eventually, I hope to become a herpetologist in some capacity. I need a bit more excitement in my life, and working with venomous snakes or lizards will help with that!"

Careers in Ecology

A profession with global impact

Challenges to the conservation of species, the wellbeing of our environment and the ecosystems that sustain it, are growing. Meeting these challenges head on requires a deep understanding of the ecological interactions in the world around us.

It also requires an ability to apply a range of new techniques and technologies, from analysing the molecular genetics of small populations to tracking plants and animals across entire landscapes.

As an Ecology graduate you will have developed field, laboratory and analytical skills that many organisations and companies in New Zealand and overseas will find valuable.

These skills could lead you into a career in biosecurity, conservation, ecological restoration,

pest management or environmental education and community liaison. Other potential roles include environmental policy, science advisory, or ecological and environmental research with research agencies or consultancies.

Our Ecology graduates have been employed in the following jobs:

- Ectotherm keeper, Auckland Zoo
- Teacher, Howick Intermediate
- Project consultant, SLR Consulting
- Cape to City assistant, Hawke's Bay Regional Council

Other positions and roles include:

- Biosecurity and pest management
- Roles in ecological restoration
- Environmental policy, consulting and science advisory roles

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A quick guide to undergraduate Earth Sciences

If you're intrigued by the processes that shape our planet, from its deepest interior to its surface, and into neighbouring space, then Earth Sciences is the major for you.

Studying Earth Sciences at the University of Auckland means you'll have access to world-renowned experts and teachers, and you'll benefit from plenty of fieldtrips that will give you the chance to apply your classroom learning.

As an Earth Sciences student you'll be able to choose whether to follow one of three pathways (Climate, Earth Surface Processes or Geology) in order to focus your studies further. Whatever you choose, you'll study the complexity and interactions of Earth's systems, and the impact of natural processes on society – and of society on these processes.

You don't need to have taken any particular subject at high school to be able to study Earth Sciences with us. High school earth science, geography, physics, mathematics, biology and chemistry are beneficial because they provide helpful background knowledge, but they're not essential. You'll also use written and oral

communication skills in your Earth Sciences major, so high school English is a useful subject too.

Can't choose which subject to study?

With so many options it's sometimes hard to choose what you want to study, but we've got you covered. You can study a double major with our Bachelor of Science to gain a broader base of skills and knowledge.

Complementary majors include:

[Anthropological Science](#)
[Environmental Science](#)
[Geography](#)
[Geographic Information Science](#)
[Geophysics](#)
or any other major in Science.

Explore and discover everything you need to know about studying Earth Sciences:

science.auckland.ac.nz/ug-earth-sci



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Our subject
is ranked
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New Zealand

QS World University Rankings
by Subject 2020

#1



Earth and Marine
Sciences

What you'll study in your Earth Sciences degree

You can choose to keep your Earth Sciences major general, or you can choose one of the following pathways:

- **Climate:** You'll explore the interactions of the atmosphere, ocean and land that create our climate and investigate the evolution of climate over time.
- **Earth Surface Processes:** You'll examine how coasts, rivers and hillslopes are shaped by surface processes and influenced by the underlying geology.
- **Geology:** You'll explore the solid Earth and the processes that have shaped its evolution, spanning the early solar system and origins of life, plate tectonics, volcanoes, earthquakes and natural resources.

BSc

Topics you can study include:

- Engineering geology
- Geomorphology
- Exploration geophysics
- Climate and ocean processes
- Volcanology, tectonics and geochemistry

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Find out how your degree will be structured and what courses you need to take at science.auckland.ac.nz/ug-earth-sci

Careers in Earth Sciences

An exciting variety of careers

Study in Earth Sciences offers a wide and exciting variety of career paths. Trained earth scientists find work locally or internationally, working for geological and exploration companies, engineering companies, environmental consultancies, Crown Research Institutes, central Government and local authorities.

You could find yourself responsible for monitoring hazards such as volcanic activity, landslides or earthquakes. You can even use your data analysis training to move into IT industries.

Our graduates establish careers in areas such as resource management, hydrology, hydrogeology, coastal management, catchment management, water resources, engineering geology, environmental geochemistry, natural hazards research, meteorology and mineral, geothermal and petroleum exploration.

Jobs related to Earth Sciences include:

- Resource manager
- Exploration geologist
- Soil conservation scientist
- Risk and hazard assessor
- Geothermal geologist/geochemist
- Teacher
- Geoheritage advisor
- Hydrologist



Emily Twort

Bachelor of Science (BSc) majoring in Earth Sciences and Environmental Science.

"I have always had a passion for science and the outdoors. Earth Sciences is a great choice for me as it allows me to combine both of these passions into one exciting and important sector of scientific discovery."

"I chose the University of Auckland because the city of Auckland is very geologically significant. So far I have really enjoyed the field geology aspects of the course. I'm looking forward to further exploring the geomorphology and Earth surface processes fields."

"The University is a great place to learn and all the staff are very approachable. Studying Earth Sciences involves plenty of opportunities to put theory into practice. This has definitely been one of the highlights of my studies so far, as being in the field with like-minded friends while studying something we really enjoy is such a positive learning experience."

"I hope to be able to combine my qualification and my love for the outdoors into a job that promotes new geologic discoveries as well as conservation of the natural environment."

"I really love the independence that being a student at University gives you. I have made many new friends due to the friendly nature of the people I study with. Being a self-motivated student with a lot of outside commitments, I find the learning environment at the University of Auckland extremely beneficial in allowing me to strive to achieve my best."

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A quick guide to undergraduate **Environmental Change**

Our environment is in constant flux, and this change has both natural and human causes. If you're keen to get to the bottom of these causes, and develop the skills and knowledge to be able to suggest solutions to environmental problems, then this is the subject for you.

Environmental Change at the University of Auckland will prepare you to take on the challenges of our rapidly changing world.

You'll develop a deep understanding of the science of contemporary environmental change research – research that is multi-disciplinary, collaborative and holistic. You'll study topics such as environmental conservation, risk and management, environmental modelling, Earth processes and landforms, ocean and coastal processes, and climate change.

If you're interested in studying Environmental Change with us, it's useful to have studied high school biology, geography and statistics, but it's not essential.



Explore and discover everything you need to know about studying
Environmental Change:
science.auckland.ac.nz/ug-env-change



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What you'll study in your Environmental Change degree



BAdvSci(Hons)

Topics you can study include:

- Earth surface processes and landforms
- Climate and hydrology
- Conservation ecology
- Environmental modelling
- Environmental risk and management

**Do research
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Find out how your degree will be structured and what courses you need to take at science.auckland.ac.nz/ug-env-change



Alysha Jones

Studying Earth Sciences and Marine Science.

Alysha talks about her interest in Environmental Change.

"I find it fascinating to see the big picture of Earth's evolution and the changes the environment has undergone to look the way it does today. On the scale of things, this fraction of time we're living in is tiny."

"My favourite part of studying at University is the opportunities offered. These range from fieldtrips around Auckland, mapping the relevant geological units and structures, to a trip to Australia to tour the Australian Nuclear Science and Technology Organisation where I networked with a variety of people from New Zealand and Australia."

"I love that my programme is so broad – I get to examine biology and ecology by exploring the organisms preserved in fossils, and the chemical composition of the minerals composing the geology surrounding us."

"I particularly enjoy that my courses are so practical. During my two years of study I've not only applied the theory I've learned in the labs, but also gained practical experience during fieldtrips."

"It's great that the environmental theory taught within lectures can be so easily applied to wherever you go in the real world. I think that's unique within this subject."

Careers in Environmental Change

A skilled practitioner in a changing world

As the Anthropocene progresses, human influence on the environment will be increasingly important.

As an Environmental Change graduate you will have developed expertise on how to predict future environmental change and the implications of that change on societies.

This specialisation could be the gateway to doctoral research, or you may consider finding employment as a skilled practitioner whose holistic perspective has prepared you to tackle the challenges of a rapidly changing modern world.

With your broad, multi-disciplinary knowledge and skills, you could find career opportunities in local and regional government, Government ministries, Crown Research Institutes and private consultancies.

Jobs related to Environmental Change include:

- Conservation manager
- Environmental advocate or educator
- Environmental consultant
- Impact assessor
- Policy analyst
- Resource management consultant

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A quick guide to undergraduate Environmental Science

If you're passionate about protecting our natural heritage, mitigating the impact of human activity and solving environmental problems, then Environmental Science is the subject for you.

Studying Environmental Science at the University of Auckland allows you to draw on the knowledge and expertise of leaders in the discipline.

You'll also undertake laboratory work and go on plenty of fieldtrips, where you'll be able to apply your theoretical learning to find practical environmental solutions.

As an Environmental Science student you'll study topics like conservation management, policy and planning for sustainable development, quantitative approaches for analysing environmental problems, and human interactions with environmental systems and processes.

You don't have to have taken any particular subject at high school in order to study Environmental Science with us. It's important to have an interest in science subjects (such as biology, chemistry, physics, geography and statistics), as well as a passion for understanding the natural world and how humans interact with it.

Explore and discover everything you need to know about studying
Environmental Science:

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[Chemistry](#)

[Earth Sciences](#)

[Geography](#)

[Geophysics](#)

[Statistics](#)



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Environmental
Sciences

What you'll study in your Environmental Science degree



BSc

Topics you can study include:

- Interactions between humans and environmental systems
- Environmental change, including climate
- Environmental modelling
- Ecology
- Water resources
- Field, lab and research topics

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Find out how your degree will be structured and what courses you need to take at

science.auckland.ac.nz/ug-environmental



Alana Jacobson-Pepere

**Bachelor of Science, majoring in
Geography and Environmental Science**

Iwi: Ngāti Porou

"I chose to major in Geography and Environmental Science because I was interested in human processes and how interactions between humans and the environment impact our future and decision making."

"I am a huge advocate of creating a sustainable future and I believe trying to understand our environment starts by understanding human behaviours."

Majoring in these subjects has given me a deeper understanding of human behaviours, physical processes and how technology intertwines with all the subjects."

"My favourite project was in GEOG315. It required using a Geographic Information Science analysis to map out vegan restaurants in Auckland and see where they are concentrated and what that means in regard to human choices towards food consumption."

"I hope to work in a place that provides sustainable future plans to help create a world that is better for us. Instead of trying to create new scientific solutions to problems, I believe that the solutions are already in front of us and it just takes a better understanding of the world we live in now to create a solution to our problems."

Careers in Environmental Science

A world of opportunity

The future looks bright for graduate careers in environmental science, with opportunities expanding globally.

The skills you develop during your study will help to prepare you for a range of different jobs including those in all levels of government, iwi liaison, environmental officers, laboratory leaders and environmental consultants.

Depending on their career goals, our graduates often go on to do postgraduate study, and can be found employed in a very diverse range of careers throughout the business sector, Government, education and non-governmental organisations.

You will find yourself well prepared for the challenges outside the University.

Our Environmental Science graduates have been employed in the following jobs:

- Environmental planner, Beca Group
- GIS technician, Cyient Emea
- Environmental manager, Leighton Contractors
- Co-editor and writer, Metal Temple
- Teacher, Rutherford College
- Environmental consultant, Tonkin + Taylor
- Kaitohu, Te Puni Kōkiri
- Environment data analyst, Bay of Plenty Regional Council
- Researcher, AgResearch Ltd

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A quick guide to undergraduate

Geographic Information Science

If you've ever dropped a pin into Google maps, or found the shortest route using the public transport network, then you've engaged with Geographic Information Science (GIScience). GIScience is the study of the data structures and techniques used to capture, process and visualise geographic information.

As a GIScience student you'll be taught how to use data collected by satellites and drones, government-sourced data, and social media platforms to examine a wide range of social and natural processes. You'll use modelling techniques to analyse data intensive contexts, and you'll try to answer questions like: What is the relationship between urban inequality and disease? What are the effects of sea level rise on coastal areas? How do resources flow across a busy transportation system?

You don't need a background in geography or computing at high school to study Geographic Information Science with us. The major embraces the latest GIS technologies and ways of thinking to enable you to apply your knowledge from a range of subjects.

Can't choose which subject to study?

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Complementary majors include:

- [Computer Science](#)
- [Earth Science](#)
- [Environment Science](#)
- [Geography](#)
- [Marine Science](#)
- [Statistics](#)

Explore and discover everything you need to know about studying
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What you'll study in your Geographic Information Science degree



BSc

Topics you can study include:

- Spatial thinking
- Geography of the human environment
- Earth surface processes and landforms
- Programming techniques
- Remote sensing

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ChenChen Liu

Bachelor of Science majoring in Environmental Science and Marine Science.

ChenChen talks about her experience of using Geographic Information Science (GIS).

"I enjoy using GIS through many different kinds of software tools like ArcMap, ArcGIS and ArcScene to solve geographic and environmental problems.

"One of my favourite field trips was when we investigated the topography of the islands near Waiheke, and conducted water quality inspection as well as statistics on the species and quantity of marine organisms in the sea areas around the islands.

"Then our study group visited the island to carry out geological, hydrological, mapping, geophysical exploration, and distributed questionnaires to collect the suggestions and views of the indigenous people on the establishment of marine protected areas.

"We collected and reviewed materials, used GIS and remote sensing for statistical modelling and made the overall model of protected areas. This amazing experience taught me how to plan and generate research.

"The application of GIS is widely used to analyse and process spatial information that can map and analyse the phenomena and events that exist on the earth. Deforestation, coastal wetland degradation and habitat loss can all be seen clearly by using GIS technology. It can also be used in predicting future environmental conditions.

Careers in Geographic Information Science

A career for a rapidly changing world

It is estimated that 80% of data collected has some spatial component, whether it's a city name, a street address or even a precise set of co-ordinates.

Professionals in a wide range of fields use GIS tools to turn geographic data into maps, tables and other kinds of information needed to make informed decisions.

In a rapidly changing world, detailed, up-to-date geographic data are indispensable for governance, for commerce, and for research intended to improve our understanding of social and environmental systems.

As a GIScience graduate you'll possess sound theoretical knowledge and be able to demonstrate

independent technical proficiency across the social, ecological and physical domains of GIScience application.

You'll be well prepared to enter the workforce in both public and private sectors, or pursue postgraduate study.

Jobs related to Geographic information Science include:

- Analyst
- Cartographer
- Climate scientist
- Conservationist
- Geographer
- Geospatial database developer
- Mapping and surveying technician

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A quick guide to undergraduate Geography

Geographers ask questions about society and the environment. They study the natural processes of the physical environment, as well as the activities and consequences of humans in this environment.

Some geographers specialise in coastal, glacial or fluvial processes and landforms, climatology, biogeography, hydrology or environmental change. Others study regional economics, population change, the problems of rural or urban areas, or the experience of particular groups in society. Fieldwork is an important part of majoring in Geography – you'll undertake field trips to explore New Zealand's landscapes.

Studying Geography at the University of Auckland means you'll learn in an environment that is ranked first in New Zealand, and 28th in the world, for geography*.

You don't have to have taken geography at high school to be able to study Geography with us. However, if you have taken high school geography you will have been introduced to some key concepts and skills, which you'll find beneficial. You'll also use written and oral

communication skills in your Geography major, so high school English is a useful subject too.

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[Chemistry](#)

[Computer Science](#)

[Earth Sciences](#)

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[Psychology](#)

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30
in the world



Geography

What you'll study in your Geography degree



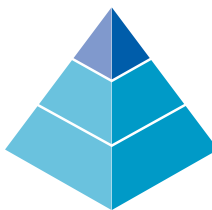
BSc

Topics you can study include:

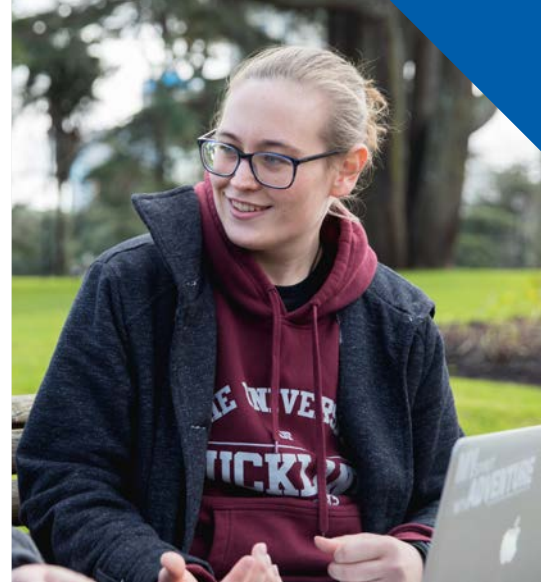
- Weather, wave, tide and river monitoring and analysis
- Demographic and economic analysis
- Mapping, cartography and geovisualisation
- Analysis of soils and sediments
- How to interpret physical and cultural landscapes

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science.auckland.ac.nz/ug-geography



Rachel Lawson

**Bachelor of Science, majoring in
Geography.**

"I have always been interested in learning about the history and processes in life, and through geography I can understand the world around me. Like the different issues we are facing in the world and what things need to be done to make and prevent change. Issues like climate change or resource exploitation and allocation, and the growing divide between the 'haves' and the 'have nots'."

"I chose to study Geography at the University of Auckland because of its amazing laboratory and lecture facilities, and proximity to interesting natural landscapes."

"My interests lie in hazards, and Auckland has everything a geographer needs, from volcanoes, flooding and landslide hazards, to cliffs and tsunami risks. I have been able to view case studies in my own backyard with field trips to Rangitoto and Waiheke Islands and Muriwai all showing vastly different landscapes within close proximity to uni."

"Studying Geography can take you to so many places, there are opportunities for domestic and international trips and you will never be bored in a Geography lecture. You can move away from essay heavy internals and stressful externals into practical skills, and sometimes even alternative assessments like video essays, self-driven projects and field-based assignments."

"We also have a great community feel with a fantastic student organisation that can offer support, advice and events."

Careers in Geography

A foundation for a host of occupations

Geography is exciting, challenging and relevant to today's world. Geographers study the natural processes of the physical environment, as well as the activities and consequences of humans in this environment.

A Geography degree gives graduates an edge. The skills you learn mean you can be found working in a wide range of occupations in an equally wide range of organisations. You might use your training directly in your workplace, or find the broad education and flexible skills are in high demand in the wider job market.

You may specialise in coastal, glacial or fluvial processes and landforms, climatology, biogeography, hydrology or environmental change. Or you could find yourself exploring the

transformation of urban places, globalisation and its effects, migration and population change, or issues of ethnicity and identity. You could also specialise in spatial analysis, bringing the power of geographic information science to bear on a wide range of research problems.

Our Geography graduates have been employed in the following jobs:

- Planning services, Beca Group
- Geospatial specialist, Auckland Council
- Sustainability and climate change team, PwC
- Coastal scientist, Tonkin + Taylor

Other positions and roles include:

- Policy and planning
- Environmental and resource management

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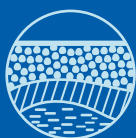
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A quick guide to undergraduate Geology

Geology considers the physical forces that act on the Earth, the chemistry of its constituent materials, and the biology of its past inhabitants as revealed by fossils. Studying Geology at the University of Auckland means you'll be learning in an environment that is ranked first in New Zealand for earth and marine sciences, which includes Geology*.

*science.auckland.ac.nz/excellence

You'll gain a strong foundation in geomorphology, earth materials, earth history and earth structure. As a Geology student you'll develop your geological field techniques through our core laboratory and field skills courses, and you'll get to go on fieldtrips where you can put these techniques into practice. You can also study Geology as a pathway in the Earth Sciences major of a Bachelor of Science (BSc).

You don't need to have taken any particular subject at high school to be able to study Geology with us. High school earth science, geography, physics, mathematics, biology and/or chemistry are beneficial because they provide helpful background knowledge, but they're not essential. You'll also use written and oral communication skills in your Geology specialisation, so high school English is a useful subject too.

Explore and discover everything you need to know about studying Geology:
science.auckland.ac.nz/ug-geology



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**2 degrees
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THE UNIVERSITY OF
AUCKLAND
Te Whare Wānanga o Tāmaki Makaurau
NEW ZEALAND

SCIENCE

What you'll study in your Geology degree



BAdvSci(Hons)

Topics you can study include:

- Earth processes and landforms
- Earth structure
- Geochemistry and petrology
- Natural hazards, including volcanoes, landslides and earthquakes
- Geological exploration and mapping

**Do research
with an
academic
mentor**



Find out how your degree will be structured
and what courses you need to take at
science.auckland.ac.nz/ug-geology



Jessica Birrell

Studying Earth Science and Geography.

"I've always been very curious about how the Earth works and the influences that cause features such as volcanoes and earthquakes. I've also been interested in how we can capture images over time with geographic information science (GIS), in ways such as remote sensing and imagery of the Earth, where we can piece bits of imagery together to gather knowledge of what is happening on Earth."

"Geology is such a variable subject with so much going for it. It's a unique degree where you're learning about the Earth and its processes as well as ways to measure these processes."

"The best thing about studying Geology is that you're often out in unique and remote environments doing lots of hands-on learning, rather than being stuck in a classroom learning only the theoretical side. One minute you're in class learning about measuring structural features, then the next minute you're out in the field putting those skills into practice."

"If you're considering Geology as a specialisation at the University of Auckland I would definitely recommend it. The people, the courses and the opportunities available to students after University, such as research programmes and further geology opportunities, are amazing."

"Once I graduate, I'm hoping to get a position within the Royal New Zealand Air Force working with remote sensing, so GIS is beneficial as a course within the geology sector. I'm also looking at working in the area of exploration geology later in my career."

Careers in Geology

Work in many exciting fields

The scientific study of our Earth is more important now than ever. A large, increasing world population is demanding more energy, food and minerals from the planet. Urbanisation and population pressure are making huge demands for buildings, infrastructure and water.

Graduating with a Geology specialisation means you could be doing petroleum and gas assessment, engineering geology, surveying, mineral processing and mining, audits, land stability studies, education and much more.

As a trained geologist you could find employment locally and internationally, working for environmental consultancies, geological and exploration companies, engineering companies, territorial local authorities or the central Government.

Jobs related to Geology include:

- Assessing natural hazards (volcanoes, earthquakes)
- Engineering site investigations
- Environmental impact audits
- Geological surveys and mapping
- Geochemical and geophysical exploration
- Oceanography
- Rock and mineral resources survey

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A quick guide to undergraduate Geophysics

Geophysics is the study of the Earth and environment using physics and mathematics. It spans from the deep interior of the Earth to its surface, oceans and atmosphere. Geophysicists aim to explain the physical phenomena we observe today to discover their past and model their future behaviour.

As a Geophysics student you'll study the physical processes of the Earth, including the hazards posed by earthquakes and volcanoes, the currents in oceans and atmosphere, weather, and climate. Studying Geophysics at the University of Auckland means you'll learn in an environment that is ranked first in New Zealand for earth and marine sciences, which includes Geophysics*.

If you're interested in studying Geophysics with us, you will need to have taken physics and mathematics at high school. Geography, chemistry and statistics provide helpful background knowledge, but they're not essential.

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Can't choose which subject to study?

With so many options it's sometimes hard to choose what you want to study, but we've got you covered. You can study a double major with our Bachelor of Science to gain a broader base of skills and knowledge.

Complementary majors include:

[Computer Science](#)
[Earth Sciences](#)
[Environment Science](#)
[Geography](#)
[Mathematics](#)
[Physics](#)

Explore and discover everything you need to know about studying
Geophysics:
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at once**



What you'll study in your Geophysics degree

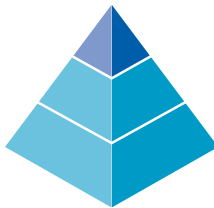


BSc

Topics you can study include:

- Climate
- Structure and dynamics of the Earth
- Natural hazards and resources
- Oceans and atmosphere

INCLUDES A
**student-led
capstone
course**



Find out how your degree will be structured and what courses you need to take at
science.auckland.ac.nz/ug-geophysics



Kiara Daly

**Bachelor of Science, majoring in
Geophysics and Physics.**

"I enjoy Geophysics because it is a great overlap between an Earth Sciences degree and a Physics degree. It combines the ability to explain 'what is happening' from Earth Sciences, but it takes everything I learn to the next level by using Physics to explain 'how it is happening'."

"Geophysics is a very powerful thing to study as you pick up knowledge that provides you with incredible insight into all facets of the world. I love how relevant the subject matter is, and I find myself being able to identify and explain so much of the phenomena in the world around me."

"This field of study is very unique because there are still fundamental things that we do not understand, so there are great opportunities to make an impact and add to the world's knowledge. There are also so many avenues of geophysics that you can go into depending on what you are passionate about."

"My favourite part of studying at University is being part of the Geophysics team. Everyone supports each other; you become part of a close-knit group with easy access to the lecturers, who encourage you to interact with the postgraduate students."

"I hope this qualification will lead to a research position where I can make a breakthrough that will enhance our understanding of the world we live in and contribute to improving people's quality of life."

Careers in Geophysics

A workforce addressing the future

Important questions about the future of climate, energy, geohazards, and drinking water require a workforce that is well-versed in the different aspects of Geophysics.

As a Geophysics graduate you are trained in a variety of disciplines during your studies. These include mathematical modelling, statistics, physics and computer science, and can lead to a variety of career paths.

Our graduates can be found researching the geophysical processes involved with climate, plate tectonics, earthquakes, volcanoes, the oceans and our atmosphere.

You can also become explorers for natural resources, looking for oil, minerals and

groundwater, and help to monitor and manage environmental problems including natural hazards such as earthquakes, climate change and pollution.

Jobs for our Geophysics graduates include:

- Atmospheric scientist
- Energy industry consultant
- Geohazard researcher
- Ground and geothermal water exploration consultant
- Environmental and geotechnical specialist
- Mineral industry advisor
- Oceanographer

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A quick guide to undergraduate Marine Science

Marine Science is the scientific study of our oceans in areas such as aquaculture, coastal processes, marine biology, marine conservation and oceanography. Studying Marine Science at the University of Auckland gives you access to purpose-built laboratory facilities, as well as trips to the Leigh Marine Reserve – New Zealand's first marine reserve.

The Leigh Marine Laboratory and its facilities (including a 14m research vessel, diving facilities, a flow-through seawater system and meteorological station) offers students unique opportunities to study our oceans and environment. The University of Auckland is ranked first in New Zealand, and in the top 100 in the world, for earth and marine sciences*. Our credentials are impressive, but don't just take our word for it – read what one of our students has to say, overleaf.

You don't have to have taken any particular subject at high school to study Marine Science with us. However biology, chemistry, geography, physics, mathematics or statistics will provide you with helpful background knowledge. You'll also use written and oral communication skills, so high school English is a useful subject too.

*science.auckland.ac.nz/excellence

Explore and discover everything you need to know about studying Marine Science:

science.auckland.ac.nz/ug-marine



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TOP 100
worldwide**

QS World University Rankings
by Subject 2020



What you'll study in your Marine Science degree

BSc

Topics you can study include:

- Biodiversity and marine ecology
- Fisheries and aquaculture
- Environmental modelling
- Data analysis
- Climate and ocean processes

BAdvSci(Hons)

Topics you can study include:

- Dynamics of marine systems
- Molecular ecology and evolution
- Environmental chemistry
- Water quality science
- Coastal and resource management

INCLUDES A
**student-led
capstone
course**



**Do research
with an
academic
mentor**



Find out how your degree will be structured and what courses you need to take at
science.auckland.ac.nz/ug-marine

Careers in Marine Science

A world of opportunities

As a graduate majoring in Marine Science, the skills you acquire will enable you to guide your career in the marine environment.

New Zealand has the world's fourth largest exclusive economic zone. It must be managed sustainably to ensure it provides for our social and economic wellbeing.

There are plenty of issues to investigate, from the management of New Zealand's extensive marine areas, to oceanography and climate impacts, to the welfare of marine animals and fish stocks. All of these issues need good scientists and well-trained technicians who understand the marine environment, and means the number of jobs in marine science is increasing steadily.

Whether you are interested in seafood, conservation, management or contributing to the science that will influence our future, you will find employment in a wide range of organisations.

Our Marine Science graduates have been employed in the following jobs:

- Aquarist, Kelly Tarlton's
- Survey engineering technician, Land Partners Ltd
- Aquaculture and water quality technician, Pacific Reef Fisheries
- Water and well systems engineer, American Samoa Power Authority
- Marine biologist, Norwegian Institute of Marine Research
- Creative brand strategist, Mecca Entertainment
- Laboratory technician, AsureQuality
- Fisheries Act observer, Ministry for Primary Industries
- Oceanographer, US Naval Research Laboratory



Melanie Hayden

Māori, Ngati Huia

Bachelor of Science, majoring in Marine Science.

"I've always known I'd go to uni to study science, and Marine Science was the best fit because I've always loved being around the water."

"The programme isn't all theory. We go out on fieldtrips to get the practical skills we're likely to need in the workforce."

"In particular I really enjoyed the Stage II Biological Sciences field trip to Whangarei Heads where we spent the mornings gathering data and the rest of the day writing out full scientific reports. It was full-on but it taught me a lot about working under pressure and prepared me well for the workload of third-year study!"

"I'm interested in getting into fisheries research, or getting involved in marine spatial planning, but before I do that I plan to continue studying, either a postgraduate diploma or a masters in Marine Science."

"I'm lucky enough to have received the University of Auckland Chancellor's Award for Top Māori and Pacific Students. It helped me to just focus on my studies, as it paid for accommodation in my first year, as well as covering all of my tuition fees for three years."

"The Tuākana programme also helps me, by providing a group environment to study in so I'm not 'going it alone.'"

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