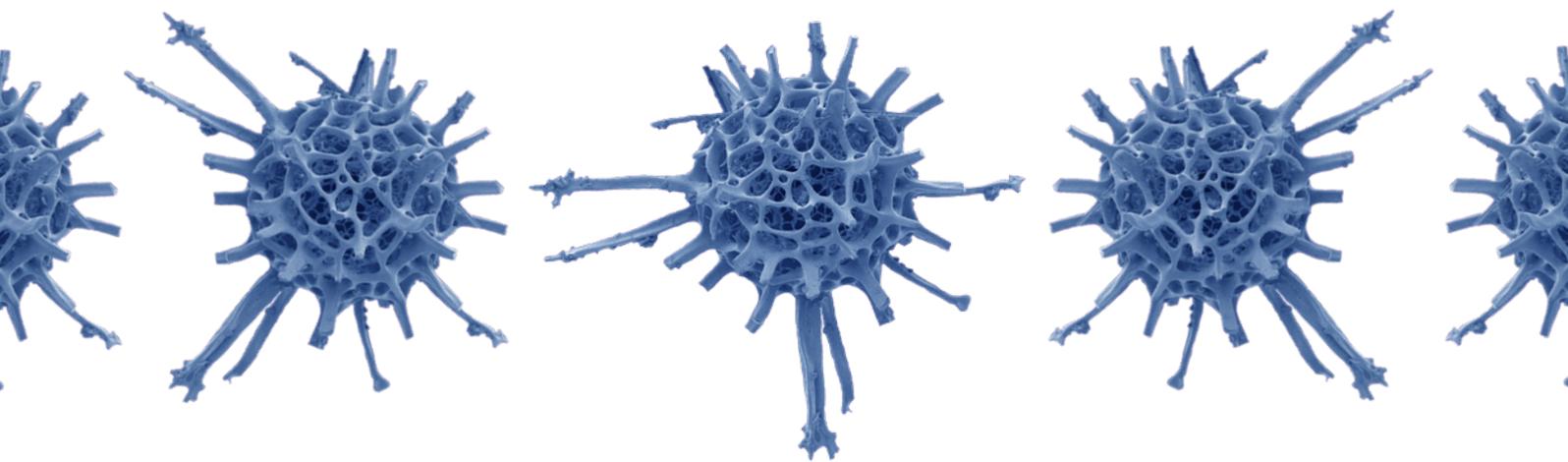


# What can I do with a degree in Geology?

# Geology.



## Career planning: what do I need to know?

Knowledge of yourself is important for career decision making. Start by looking at your personal goals, abilities, values and interests to explore study and career options that are relevant to you. Some of these may change over time, so it is important to self-reflect and evaluate your career on an ongoing basis.

### What do employers look for?

Many employers look for generic skills such as communication, customer-focus, bicultural competence, cultural awareness and teamwork. With technology and globalisation changing the nature of society, skills such as resilience, problem solving and adaptability are valuable at work as well as in life.

### How can I develop these skills?

- Some skills are developed through your degree

- Extra-curricular activities can help, for example getting involved in clubs, mentoring, cultural groups, part-time work or volunteering
- Be open to professional and personal development opportunities. Whether it is undertaking an internship, overseas exchange, skills seminar, or joining an industry group — these activities will enhance your employability.

### What else should I know?

The career options in this brochure are examples only and the list is not exhaustive. Some careers may require further study beyond a first degree or additional work experience. Some pathways and degrees have a recommended school background. Find more subject details at

📄 [www.canterbury.ac.nz/subjects/geol](http://www.canterbury.ac.nz/subjects/geol)

If this brochure does not answer your questions, talking to an expert such as a career consultant can help you to identify the next steps in your career decision making journey.

📄 [www.canterbury.ac.nz/careers](http://www.canterbury.ac.nz/careers)

## What is Geology?

Geology is the study of the Earth, so if you are interested in Earth and Space Science, or environmental sustainability, and enjoy the outdoors or travel you should consider a career in geological sciences.

Geologists monitor and assess hazards such as volcanoes, earthquakes, landslides and tsunamis, and play a vital role in land planning and assessing environmental impact, and hazard and disaster risk and resilience.

Geoscientists also search for the natural resources which sustain our society, including water. The construction of buildings, bridges, roads, dams and reservoirs requires geological expertise in the investigation of foundations.



## AT A GLANCE

129

geothermal areas have been identified in Aotearoa New Zealand<sup>^</sup>

\$75k

graduate geologists can earn up to \$75,000 a year<sup>#</sup>

3%

growth expected in the employment of natural and physical scientists by 2023<sup>\*</sup>

## What skills have UC graduates gained?

Through their Geology degree, graduates gain a valuable set of transferable skills such as:

- Scientific analysis of the outdoors
- Independent thinking
- Critically assessing and synthesising literature and data
- Capacity to think creatively, logically and quantitatively
- Oral and written communication
- Planning and organisation skills
- Teamwork and leadership.

Opportunities to apply your learning outside the classroom are available in this major, through field courses and trips that utilise UC field stations at Cass, Harihari and Westport. Such experiences deepen your skillset, awareness of others, working knowledge and employability.

## Where have UC graduates been employed?

Geology graduates are employed in national and local government, planning and conservation, teaching and research, mining and petroleum industries, museums and science centres, energy

companies, consulting and engineering firms, research institutes and exploration firms.

UC graduates have been employed by:

- Professional engineering and geotechnical engineering consultancies eg, Pells Sullivan Meynink, Pattle Delamore Partners, Opus International, ENGE0 Ltd, Coffey Geotechnics, KGA Geotechnical
- Government eg, Environment Canterbury, Ministry of Civil Defence and Emergency Management, regional councils, North Canterbury Transport Infrastructure Recovery
- Geological, geophysical and environmental consultancies eg, Geological Solutions, Southern Geophysical Ltd, CRL Energy, Geos Mining Mineral Consultants
- Engineering contractors eg, Fulton Hogan, Downer
- Energy companies eg, Mercury Energy Ltd
- Natural resources exploration and production eg, Vermilion Energy, Oceanagold Corporation, Terra Search, BHP Billiton, Orica Mining Services, Baker Hughes, Laneway Resources
- Research institutes eg, GNS Science, National Institute of Water and Atmospheric Research
- Software eg, ARANZ Geo, International Earth Sciences IESE Ltd
- Agriculture eg, Agri Optics NZ
- Secondary schools.

<sup>^</sup> 2013 and 2015 UC Graduate Destinations Surveys combined

<sup>#</sup> www.careers.govt.nz

<sup>\*</sup> MBIE Occupational Outlook

## What jobs and activities do UC graduates do?

Some specific geoscience jobs are listed below.

*Note: Some of the jobs listed may require postgraduate study. See the 'Further study' section.*

### Engineering geologist

- Conducts field investigations
- Advises on site selection using geological maps, aerial imagery and remote sensing
- Uses specialised software to assess ground suitability
- Provides advice on construction materials and materials testing

### Natural hazards analyst

- Carries out site-specific hazard and risk assessment
- Gathers and maintains natural hazards data
- Advises relevant managers and local authorities

### Environmental scientist

- Develops scientific solutions to environmental problems in land and water use
- Carries out field and lab tests, records data
- Conducts analysis and writes technical reports
- Interprets regulations and monitors compliance

### Mining geologist

- Tests ore blending and block modelling
- Facilitates grade control programmes
- Liaises with engineers and managers

### Petroleum geologist

- Carries out research to find natural resources
- Collects geological information on site
- Interprets geological data for petroleum exploration and resource assessment
- Plans and coordinates drilling

### Geophysicist, field seismologist

- Locates seismic equipment to investigate subsurface geology and earthquake seismicity
- Analyses geological and seismological data and writes reports

### Soil technician

- Monitors, collects and tests soil samples
- Analyses soil data and writes reports

### Field / laboratory technician

- Plans and carries out research experiments in the lab and the field
- Maintains/calibrates field or lab equipment
- Liaises with scientists and industry personnel
- Collects and collates data, and drafts reports

### Project manager / coordinator

- Manages a project plan, budget and schedule
- Supervises project progress and manages risks
- Liaises with project staff and clients

### Entrepreneur & self-employment

Entrepreneurship and innovation are an increasing part of the working landscape. Through generating a business idea, or getting involved in a start-up/business venture, you have the potential to create a work opportunity that aligns with your knowledge, skills, values and risk profile. To get started on how to establish, run and grow a new business, go to Te Pokapū Rakahinonga, Centre for Entrepreneurship at the University of Canterbury [www.canterbury.ac.nz/uce](http://www.canterbury.ac.nz/uce)

## What professional organisations can I engage with?

Connecting with professional bodies and organisations can help you to establish professional networks and learn more about different career options in your area of interest. Gaining valuable insight into a profession can assist in making informed career decisions.

- Geoscience Society of New Zealand [www.gsnz.org.nz](http://www.gsnz.org.nz)
- Straterra Natural Resources of New Zealand [www.straterra.co.nz](http://www.straterra.co.nz)

- Petroleum Exploration and Production Association of New Zealand [www.pepanz.com](http://www.pepanz.com)
- New Zealand Geotechnical Society Inc [www.nzgs.org](http://www.nzgs.org)
- New Zealand Geothermal Association [www.nzgeothermal.org.nz](http://www.nzgeothermal.org.nz)
- International Association of Emergency Managers [www.iaem.com](http://www.iaem.com)

Having a professional presence on social media networks such as [www.linkedin.com](http://www.linkedin.com) and Facebook can help you to keep up to date with important industry developments and trends, networking opportunities, events and job vacancies. Following relevant professional bodies, organisations, companies and thought leaders is a great way to gain a deeper awareness of the industries that interest you. Social media presents an opportunity to build and enhance networks as well as to display your involvement in projects and any academic successes.

## Why do further study and what are my options?

Postgraduate study can facilitate career benefits such as specialist skills, higher starting salary, and advanced research capability. It can also lead to an academic job. It is important to determine which, if any, further study will help your career.

Graduates can advance in Geology through an honours, master's or PhD qualification; these enable independent research and project work.

UC Geological Sciences also offers the Professional Master of Engineering Geology and the Master of Disaster, Risk and Resilience. UC has a range of higher degrees in, for example, Environmental Science, GIS, Teaching, and Water Resource Management. [www.canterbury.ac.nz/courses](http://www.canterbury.ac.nz/courses)



## Useful links

- Te Rōpū Rapuara UC Careers [www.canterbury.ac.nz/careers](http://www.canterbury.ac.nz/careers)
- Careers New Zealand [www.careers.govt.nz](http://www.careers.govt.nz)

## Sophie



Bachelor of Science in Geology  
Master of Science in Engineering Geology  
Engineering Geologist,  
Golder Associates Ltd

### Tell us about your work:

As an Engineering Geologist, I work in the realm where the ground meets the structure, which means working with other technical professionals and engineers to solve design problems

### What do you enjoy about your work?

I enjoy being presented with a problem, coming up with a strategy to investigate it, collecting the data and then using that to produce practical and useful advice for a client. It is always satisfying to see something take shape that you had a part in designing

### What are some of your goals?

To have fun and never stop learning.

### What is your advice to those looking to study?

Work hard and learn as much as you can, but don't sweat the small stuff – the learning will never stop. I made friends for life, many laugh out loud memories, and gained a degree that has directly set me up for a career I love.

## Read more online

Read more stories about our students' university experiences online. UC alumni make a difference in varied ways around the globe. To find out where graduates are now visit [www.canterbury.ac.nz/getstarted/whyuc/student-profiles](http://www.canterbury.ac.nz/getstarted/whyuc/student-profiles)

*The information in this brochure was correct at the time of print but is subject to change.*

## More information

### UC students seeking study advice.

Te Kura Aronukurangi | School of Earth and Environment

The School of Earth and Environment staff are active researchers and engaging teachers. We have over 16 active research groups that are working on everything from waterways to ecosystems in Antarctica. Our research and state of the art facilities all are used throughout our classes to allow our students to develop vital skills for further study or the workforce. Earth is the only planet we have and sustains all life, we believe understanding how it works and how humans interact with it should be part of everyone's education!

T: 03 369 4141

E: [scienceugadvice@canterbury.ac.nz](mailto:scienceugadvice@canterbury.ac.nz)

[www.canterbury.ac.nz/science/schools-and-departments/geological-sciences](http://www.canterbury.ac.nz/science/schools-and-departments/geological-sciences)

### Anyone seeking careers advice.

Te Rōpū Rapuara | UC Careers

UC offers intending and current students and recent graduates a wide range of services, including individual career guidance, seminars, career resources and student and graduate employment opportunities.

T: +64 3 369 0303

E: [careers@canterbury.ac.nz](mailto:careers@canterbury.ac.nz)

[www.canterbury.ac.nz/careers](http://www.canterbury.ac.nz/careers)

### Prospective students seeking study advice.

Te Rōpū Takawaenga | Student Liaison

The liaison team provide advice to future students who are starting their degree for the first time. They can assist with information on degrees, scholarships, accommodation, and other aspects of university life. We have offices in Christchurch, Auckland and Wellington.

Ōtautahi | Christchurch

T: 0800 VARSITY (0800 827 748)

E: [liaison@canterbury.ac.nz](mailto:liaison@canterbury.ac.nz)

Tāmaki Makaurau | Auckland

T: 0800 UCAUCK

E: [auckland@canterbury.ac.nz](mailto:auckland@canterbury.ac.nz)

Te Whanganui-a-Tara | Wellington

T: 0800 VARSITY (0800 827 748)

E: [wellington@canterbury.ac.nz](mailto:wellington@canterbury.ac.nz)

[www.canterbury.ac.nz/liaison](http://www.canterbury.ac.nz/liaison)

