

What can I do with a degree in Biological Sciences?

Biological Sciences.



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, 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/biology

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

What is Biological Sciences?

Biology means the study of living things. Biologists investigate animals, plants and microbes in many different ways and on a huge range of scales from molecules and cells to individual organisms, populations and ecosystems.

During the past few decades the study of biology has undergone rapid change and has had a significant impact on the way we live. We are now able to produce antibiotics and vaccines, grow disease resistant crops, transplant organs and manipulate genes. Biologists are actively researching solutions to vital concerns such as increasing world food supply, improving and protecting our environment and conquering disease. We need to know how micro-organisms, plants and animals work and how they interact. Of increasing importance to us is global climate change and how this affects the living world.



AT A GLANCE

\$326m

\$326.4 million of government funding over 10 years for the 11 National Science Challenges

4.6%

growth expected in the number of natural and physical scientists by 2020*

What skills have UC graduates gained?

Through their Biological Sciences degree, graduates develop a valuable set of skills that are transferable to a range of careers. These skills include:

- Advanced written and oral communication skills
- Critical analysis of information
- Cooperation, teamwork and leadership
- Numeracy and statistical analysis
- Computing
- Innovative thinking
- Ability to solve complex biological challenges.

Opportunities to apply your learning outside the classroom are available in this major, through field courses and trips. These experiences deepen your skillset, awareness of others, working knowledge and employability.

Where have UC graduates been employed?

There are wide-ranging employment opportunities for biologists. Recent UC Biological Sciences graduates have gained roles in:

- National and regional government bodies eg, Department of Conservation, Ministry for Primary Industries, Statistics New Zealand, Environment Canterbury, Waikato-Tainui Te Kauhanganui
- Tertiary institutions and secondary schools
- Crown Research organisations eg, Plant and Food Research NZ, Environmental Science and Research (ESR), Landcare Research, Scion, Callaghan Innovation
- Biotechnology, medical technology and pharmaceutical companies eg, Thermo Fisher Scientific, Applied Research Associates NZ, ENZTEC, Baxter Healthcare
- Agribusiness and food manufacturing eg, Landcorp, Ngāi Tahu Holdings Ltd, Genetic Technologies Ltd, Fonterra, Three Boys Brewery, Meadow Mushrooms, United Fisheries
- Consultants and engineering firms eg, AECOM, Boffa Miskell, Downer, EOS Ecology
- Not-for-profits eg, BirdLife International, Cancer Society of New Zealand, World Wildlife Fund
- Laboratory services eg, Eurofins NZ, Canterbury Southern Community Laboratories
- Public and private organisations around the world.

For more examples of employers who recruit UC students and graduates go to

www.canterbury.ac.nz/recruitingemployers

* 2017 MBIE Occupational Outlook

What jobs and activities do UC graduates do?

Graduates with this degree are employed in a range of jobs from the lab to the field. See examples below.

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

Field / laboratory technician

- Plans and carries out research experiments with guidance
- Maintains and calibrates equipment
- Liaises with scientists and industry personnel
- Collects and collates data, and drafts reports

Laboratory manager

- Manages laboratory staff, budgets, workloads
- Maintains and updates lab documentation
- Ensures safety and quality standards
- Reviews methods and validates results

Ecologist, biologist, environmental scientist

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

Secondary school teacher

- Plans and delivers instructional lessons
- Evaluates performance and provides feedback
- Sets and marks assignments and tests

Biosecurity officer

- Prevents the introduction of pest plants and animals into a country
- Monitors geographical entry points and transport vessels
- Supervises the destruction of pests

Medical laboratory technician

- Carries out tests on samples eg, blood, tissue
- Communicates results to patients and/or medical professionals

Biotechnology technician

- Tests micro-organisms and monitors data
- Develops and tests methods
- Assists with developing new products

Resource management / consents officer

- Ensures adherence to environmental regulations
- Processes resource consent requests
- Manages stakeholder engagement processes

Science communicator

- Presents science topics to various audiences eg, publicising research findings
- Manages educational programmes eg, exhibitions, outreach events, seminars
- Produces content eg, media releases, videos

Scientist

- Develops scientific solutions to problems in diverse fields from genomics to marine science
- Carries out field and lab tests, records data
- Conducts analysis and writes technical reports
- Communicates results/impacts to various audiences such as policy analysts and the public

Data analyst, bioinformatician

- Analyses data and models techniques to solve problems
- Gains insight across differing domains for decision-making purposes

Quality manager

- Ensures that products, processes and systems meet quality standards
- Develops policies and procedures
- Solves problems, makes decisions and supports others to achieve these standards

Entrepreneur and CEO

- Develops an idea to form their own business
- Offers their services as a consultant

Entrepreneurship and innovation are an increasing part of the working landscape. Get started at www.canterbury.ac.nz/careers/Entrepreneurship/getting_started.shtml

UC Careerhub

Students and alumni can find details of internships, job vacancies and employability tips at www.careerhub.canterbury.ac.nz



What professional bodies can people link to?

As they progress, students and graduates often join professional bodies or organisations relevant to their area of interest. These organisations can provide regular communications and offer the chance to network with others.

- New Zealand Microbiological Society
www.nzms.org.nz
- New Zealand Society of Plant Biologists
<http://plantbiology.science.org.nz>
- New Zealand Ecological Society
www.nzes.org.nz
- Royal Society of New Zealand
www.royalsociety.org.nz
- New Zealand Association of Scientists
<http://scientists.org.nz>
- Genetics Society of AustralAsia
www.genetics.org.au
- Science Communicators Association of New Zealand
www.scanz.co.nz

Social media networks such as LinkedIn, Facebook and Twitter can provide avenues to keep up-to-date with industry knowledge, networking opportunities, events and job vacancies.

Why do further study and what are my options?

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

Biological Sciences graduates can progress into a number of programmes from honours to PhD level. Some do further training eg, in teaching, forensic science, management, or communications. For UC options visit www.canterbury.ac.nz/courses

Useful links

UC Careers, Internships & Employment
www.canterbury.ac.nz/careers

UC College of Science
www.canterbury.ac.nz/science

Careers New Zealand
www.careers.govt.nz

Crown Research Institute careers
www.careers.sciencenewzealand.org

Future in Tech
www.futureintech.org.nz

Morgan Couch



Ngāi Tahu

Studying towards a Bachelor of Science in Biological Sciences with an endorsement in Ecology and a Bachelor of Laws

Why did you choose these subjects?

I've always been interested in the environment and living things, which naturally drew me to biology. I decided to take law as well because I want to help people and give them a voice.

What do you enjoy about Biological Sciences?

I enjoy learning about the remaining endemic species in New Zealand, and love that we have access to so many fascinating ecosystems around Christchurch, from the mountains to the sea.

I love the localised and global issues that we are taught — there is an emphasis on New Zealand biology and environmental impact. I recently took the water resource paper, which was an eye opener to the current local situation and methods of mitigation.

How do your studies prepare you for the real world?

The UC course advisors helped me to work out what papers I could do that were relevant to both law and science, such as freshwater studies. This helped me to do the things I love as well as what's useful towards employment. It also helped me to manage my workload.

Any highlights so far?

Applied learning has been valuable for me in understanding and building interest in specific areas of study so I really enjoy the opportunities to go out into the field. A highlight for me was the BIOL 270 fieldtrip to Cass field station and the opportunity to study in such a beautiful and natural place.

So, what's next for you?

Maybe I will go into environmental law or biosecurity. So far I have had a lot of opportunities in both fields. For example, I did an internship with the New Zealand Public Interest Project where we worked on miscarriages of justice. I worked with an inspiring team of lawyers, private investigators and forensic scientists, and the experience opened my eyes to forensics which was really cool.

Read more online

UC alumni make a difference in varied ways around the globe. For stories of graduates who are working in biology-related fields visit

www.canterbury.ac.nz/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.

School of Biological Sciences
Te Rāngai Pūtaiao | College of Science

We offer a diverse range of courses to suit students' interests and needs. As well as field and lab learning, our teachers and researchers aim to push the frontiers of knowledge and act as a conscience of society and we'll challenge you to do the same. Come and see us to chat about your programme of study.

T: +64 3 369 5200

E: biology@canterbury.ac.nz

www.canterbury.ac.nz/science/schools-and-departments/biological-sciences

Anyone seeking careers advice.

Careers, Internships & Employment
Te Rōpū Rapuara

CIE 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 3 364 3310

E: careers@canterbury.ac.nz

www.canterbury.ac.nz/careers

[UCCareersEmployment](#)

Prospective students seeking study advice.

Student Liaison
Te Rōpū Takawaenga

Student Liaison provides intending students with information about the university system in general and the courses, qualifications, support and facilities available at UC.

Ōtautahi | Christchurch

T: 0800 VARSITY (0800 827 748)

E: liaison@canterbury.ac.nz

Tāmaki-makaurau | Auckland

T: 0800 UCAUCK

E: auckland@canterbury.ac.nz

Te Whanganui-a-Tara | Wellington

T: 0800 VARSITY (0800 827 748) ext 93231

E: wellington@canterbury.ac.nz

www.canterbury.ac.nz/liaison