



Botany Te Tari Huaota

“We receive plants that are among the last of their kind in the world, and we have to establish them in a culture and then bulk them up. There will always be plants, so (for botanists) there will always be jobs.”

Sarah Painter, Lifetech

Connecting plants and people for a sustainable future

Because plants provide us with food, fibres, and medicines, knowledge about plants is fundamental to our survival. It's also vital to the health of the planet, as plants influence the Earth's climate, and most life forms on Earth depend directly on plants for oxygen, food, or habitat. Plants also include some of the strangest and most beautiful living things on Earth.

Modern Botany includes research into the biochemistry, ecology, genetics and physiology of plants, plant evolution, and the role plants play in ecosystems and plant biotechnology. It covers topics from the breeding of crop plants using the most modern molecular techniques, through to modelling the effects of climate change on plants.

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Why study Botany at Otago?

Botany is an exciting and challenging degree taught by a team of excellent plant scientists. You will learn about important, topical issues such as biotechnology, genetic modification, ecosystem services, sustainability and the ecological impacts of environmental change.

Studying Botany at Otago will enable you to examine New Zealand's unique flora on land and in the sea. You will study its diversity and evolutionary history, as well as how this flora may be affected by changing climatic conditions, ocean acidification, and invasive organisms. Botany courses will cover a wide range of topics from how photosynthetic organisms function, to understanding their role in ecosystem processes. This will include the importance of plants in addressing some of the challenges and problems that face society in the 21st century.

Botany courses have great field trips that focus on various aspects of plant ecology and allow you to participate in hands-on study of our exciting natural environment.

Career opportunities

The wide range of topics and skills learnt in Botany can lead to many different careers. There will always be jobs for plant scientists because plants are so fundamental to life on earth.

The world's economies are highly dependent on plants and their associated habitats – not only for food production but also for timber, for the fibres and chemical compounds plants produce, and for the ecological services they provide, such as removing CO₂ from the atmosphere.

Plant scientists are employed around the world in industry, governmental and non-governmental organisations that seek to understand and conserve the natural environment, and to educate people about it.

Botany graduates are in high demand in industries such as biotechnology, horticulture, tourism, and agriculture.

A Botany degree can also lead to a career in conservation, biosecurity, environmental education, environmental consultancy, or academic research.

Our graduates take up positions in local and national government, for instance, at the Department of Conservation, and Ministry of Primary Industries and Crown Research Institutes.

Background required

While an understanding of basic biology would be useful, it is not essential – you will be taught everything you need to know once you start your course.

The basics of cells, plants, and their environments are covered in the first year Biology and Ecology papers. All you need is enthusiasm and curiosity!

What will I learn?

A Botany degree will provide you with basic training in plant biology and evolution, ecology and physiology, marine botany, mycology, plant diseases and biotechnology.

You will also gain important skills that are transferable to any career: critical thinking, written and oral communication, information analysis and interpretation, time management, problem solving, and lateral thinking.

Can I combine Botany with other subjects?

You can include papers from almost any other area in the University in your Botany degree.

For students doing a double degree or double major, Botany is most often combined with Ecology, Plant Biotechnology, Genetics, Law, Zoology, or Marine Science.

Botany is also offered as a degree minor alongside other degree subject majors.

How will I study?

Botany lecturers have an interactive style and work closely with undergraduates. In laboratory classes, you will gain hands-on experience of fundamental botanical techniques ranging from plant genetics, structure and function, to tissue culture and ecological surveys.

Botany courses also include field trips to native forests, grasslands, mountains and beaches.

The Department of Botany provides a friendly and supportive learning environment – it produces independent and informed graduates who make a positive contribution to society and the economy – nationally and internationally.

What about further studies?

A degree in Botany allows you to enter into higher degrees at Otago and other tertiary institutions. Many MSc and PhD graduates in Botany are employed as research scientists around the world, including New Zealand.

For questions about
Botany
otago.ac.nz/botany



PROFILE

Taylor Davies-Colley Ngāpuhi, Ngāti Ruanui
Master of Science (Botany), Educator, Orokonui Ecosanctuary

"One of the things that guided me into studying botany at Otago was the department and its people – it's a really positive environment where everyone is welcome. Outside of University, Dunedin has had a big effect on me – it's such a lucky city in that it has some of the most extraordinary wild spaces in the world within its city limits.

"Simply through talking to land owners in areas that contain the rare plant species I study I have raised awareness. Hopefully my research will help to guide decisions to protect the environments in which the species live, and in doing so secure them for future generations. I also hope that through telling every person I

meet about rare, carnivorous aquatic plants that can catch prey in under 10 milliseconds, I might convince them how cool botany can be!

"One thing you learn at university is how much cool research is happening – there are hundreds of people just as stoked about their thing as you are about yours. The only problem is that often the public doesn't understand a lot of this science or its potential impact. If all the amazing work that researchers are doing was communicated in a really palatable and exciting way, we might live in a very different world. It is more important than ever to be curious about our world and to help educate and inspire people to do better for this planet and its people."

