UNIVERSITY of OTAGO
Te Whare Wānanga o Otāgo
NEW ZEALAND
SAPERE AUDE

Zoology
Mātai Kararehe

"I chose to study Zoology because I've always had a fascination with the natural world and I wanted to learn how I could play my part in conserving Aotearoa's unique biodiversity. I'd already lived in Dunedin for three years before starting university and loved it here, so studying at Otago was a natural fit."

Sophie Sparrow
BSc (Zoology), PGDipWLM,
Communications Advisor, Sustainable Seas NSC

Animals, how they live and interact

Did you know that New Zealand's only mammals were bats and seals, until about 1,000 years ago? Animals are fascinating and there is so much to learn about them – the Zoology courses at Otago will blow your mind.

Zoology is the study of animals, their behaviour, their physiology and evolution, as well as their interactions with each other and with their environment. Zoologists also study how animals evolved and the impact of environmental change on their survival. They search for ways to manage wildlife populations and to conserve rare and endangered species, such as takahe, frogs and tuatara. They study costs and benefits of conservation and ways to enhance species survival.

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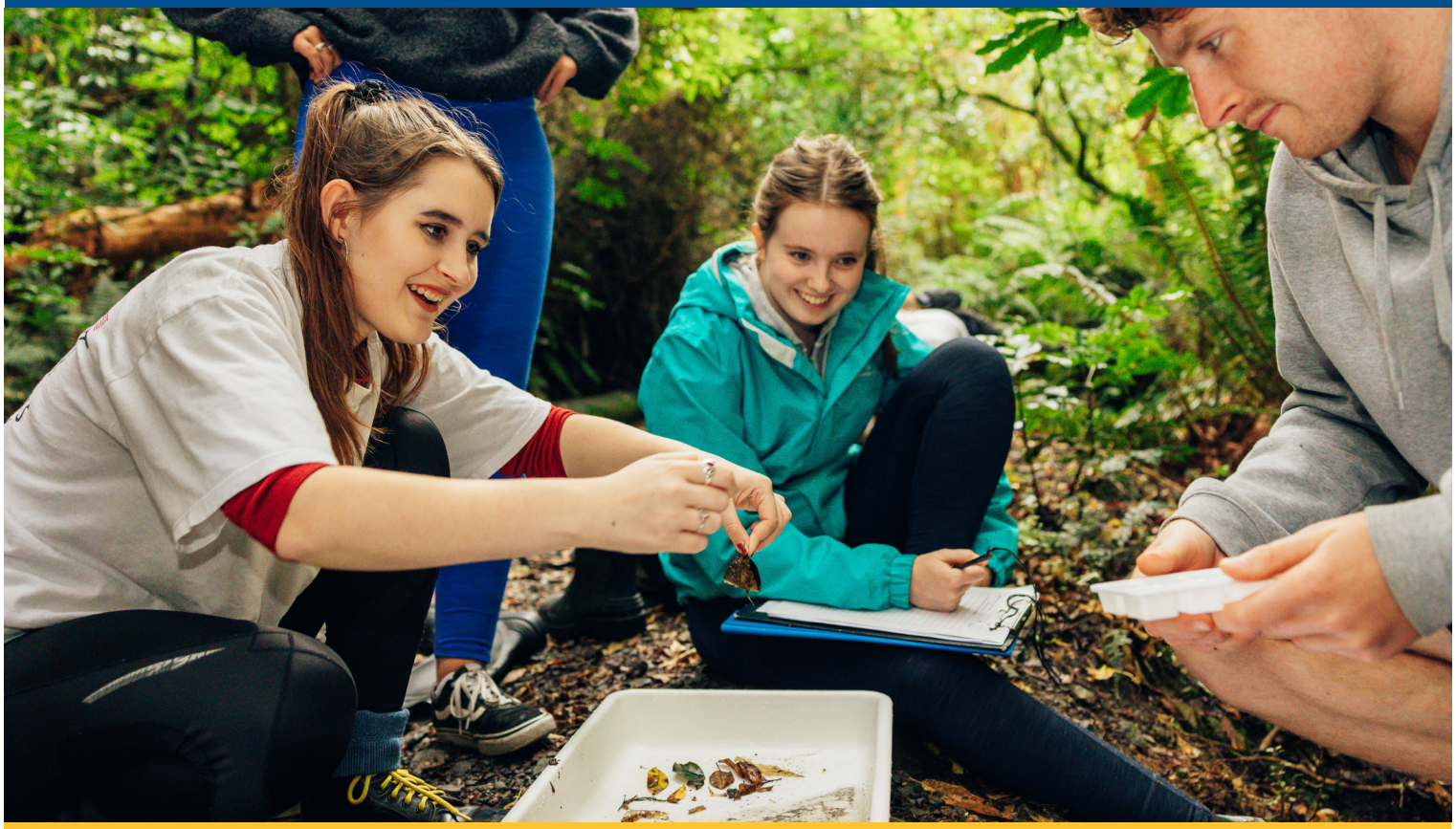


Why study Zoology at Otago?

You get to work in all sorts of spectacular environments and have the opportunity to explore all sorts of places where there is animal life, like mountains, grasslands, oceans, fiords and wetlands. There are lots of travel opportunities with Zoology – check out our graduate profiles! Zoology is a global science that will take you to all corners of the world.

New Zealand has its own unique animal life and it's a great place to study zoology and other environmental sciences. It's also one of the most interdisciplinary subjects. Staff in Zoology include ecologists, physiologists, developmental biologists, geneticists, evolutionary biologists, mathematicians, and even film makers. In our modern world, it is more important than ever that we restore and manage our environment. Zoologists can help to do that.

Background required

There is no first-year course in Zoology. Students who intend to major in Zoology should enrol in Biology (CELS 191, BIOL 112) and Statistics (STAT 110) in their first year. There are no special requirements, but it is recommended that you take NCEA Level 3 biology or its equivalent.

Careers in Zoology

A degree in Zoology opens the door to a wide variety of jobs and career options. There are opportunities in government departments and ministries, such as the Department of Conservation, and the Ministries of Fisheries, Agriculture and Forestry, and Environment. In these areas, Zoology graduates are involved with research, harvest management and pest control, as well as writing reports and developing and monitoring policy. Graduates can find careers where they are responsible for the use and care of our natural resources and environment with Regional and District Councils, Fish and Game Councils and Trust Boards. There are also jobs for Zoology graduates with Crown Research Institutes (e.g. Landcare, NIWA) and private research organisations (e.g. Cawthron Institute). Zoology graduates are also employed in medical, veterinary and biotechnology laboratories.

There are increasing opportunities to develop careers in eco-tourism as advisers, guides and managers. Some Zoology graduates are working in fisheries and aquaculture with private companies, while others have found jobs as environmental consultants. You may decide that you want to share your interest and knowledge of animals and their environments in a position as a curator, an information officer, or a guide for a museum, nature park or zoo. There are also teaching opportunities for graduates and Zoology is an important major subject for those wishing to become secondary school biology teachers.

Zoology at Otago

Zoology is a modern science set not only in the mountains, grasslands, oceans, fiords and wetlands of the world, but also in the controlled environment of the laboratory. The Department of Zoology has an international reputation for research in freshwater ecology, wildlife and conservation biology, neurobiology and animal behaviour, parasitology, genetics, environmental physiology and evolutionary studies.

What will I learn?

In your first year you will learn about the biology of cells, the biology of animals and the basics of statistics. You will cover topics such as molecular biology, cell ultrastructure and function, genetics, bacteria and viruses and theories of evolution. The courses have a strong New Zealand flavour with an emphasis on the unique nature of the animals of New Zealand and their conservation problems. In your second and third years, you will continue your study of animal diversity, physiology and evolution, with the option of including papers from subjects such as Ecology, Genetics, Statistics and Computer Modelling, and Marine Science.

How will I study?

In your first year your CELS 191 and BIOL 112 lectures and laboratory classes will be supplemented with student study groups, computer-based self-assessment tests, CAL (computer-aided learning) laboratories, and many in-house designed computer exercises. Your lectures will be accompanied by a set of notes (often interactive) and other course materials that are accessible via the internet. Laboratory classes and field trips will complement your lectures in Zoology in your second and third years. Internal assessment forms 40–50 per cent of the final grade for papers in Zoology, and the rest is derived from final examinations.

Can I combine my Zoology study with other subjects?

Many Zoology students also major in another subject such as Botany, Ecology, and Genetics. Other students complete a double degree in areas like Law, Commerce and Arts.

What about further study?

A Zoology major can lead on to a further degree, including an MSc, PhD or Postgraduate Diplomas in Natural History Filmmaking and Communication, Environmental Science or Wildlife Management.

For questions about Zoology
otago.ac.nz/zoology

PROFILES

Sophie Sparrow

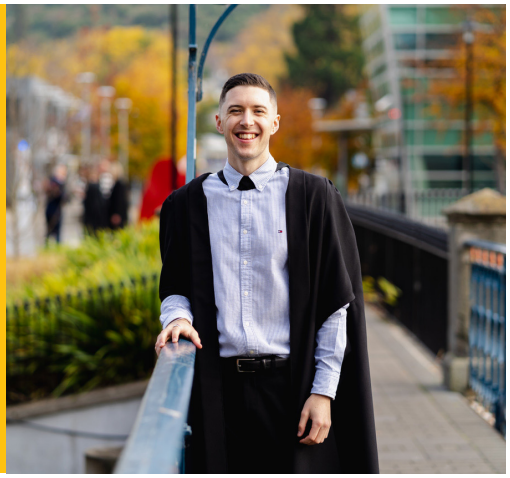
Bachelor of Science (Zoology), Postgraduate Diploma in Wildlife Management
Communications Advisor, Sustainable Seas NSC

"After completing my BSc, I wanted to continue studying the practical aspects of ecosystem conservation and restoration in Aotearoa, so I enrolled in the Postgraduate Diploma in Wildlife Management. I was keen to learn how people working in this field are approaching these challenges so that I could take that knowledge into my career. I met so many wonderful people while studying out in the field, gaining hands-on experience. A highlight was getting the chance to meet juvenile kakī and learn about the work being done to protect this rare species.

"During my postgraduate studies, I developed an interest in science communication. I now have a new challenge, working as a Communications Advisor for the Sustainable Seas NSC, which researches how we can best develop our marine economy while protecting the taonga of Aotearoa's marine environment. I work with researchers to learn about their mahi and then digest that information to produce content for a wide range of audiences, from stakeholders and policymakers to the general public."

Lachie Scarsbook

Bachelor of Science (Geology and Zoology), Master of Science (Zoology)
Studying for Doctor of Philosophy (Archeological Science), University of Oxford



"While studying for my master's, I was also lucky enough to be selected as a BLAKE Ambassador, where I worked with the Takahē Recovery Programme down at Burwood Bush in their annual trap rebait and husbandry activities (including daily supplementary feeding). One of the trip highlights was catching young takahē in the snow and transporting them in little boxes for release into another part of the reserve. Watching a species once considered extinct sprinting out into their new predator-free safe haven was so satisfying.

"After my master's, I was awarded a Clarendon Scholarship to undertake a DPhil at Oxford University. My research focuses on using ancient DNA to understand the process of dog domestication, more specifically, how messed up our modern dog breeds are from centuries of inbreeding. Also, as my research is quite international (with worldwide collaborators), being in the United Kingdom has made it easy to meet the 'big players' in my field, and even facilitated weekend trips to collect Victorian dog skeletons in Switzerland."