

UNIVERSITY
of
OTAGO
Te Whare Wānanga o Otago
NEW ZEALAND

Surveying

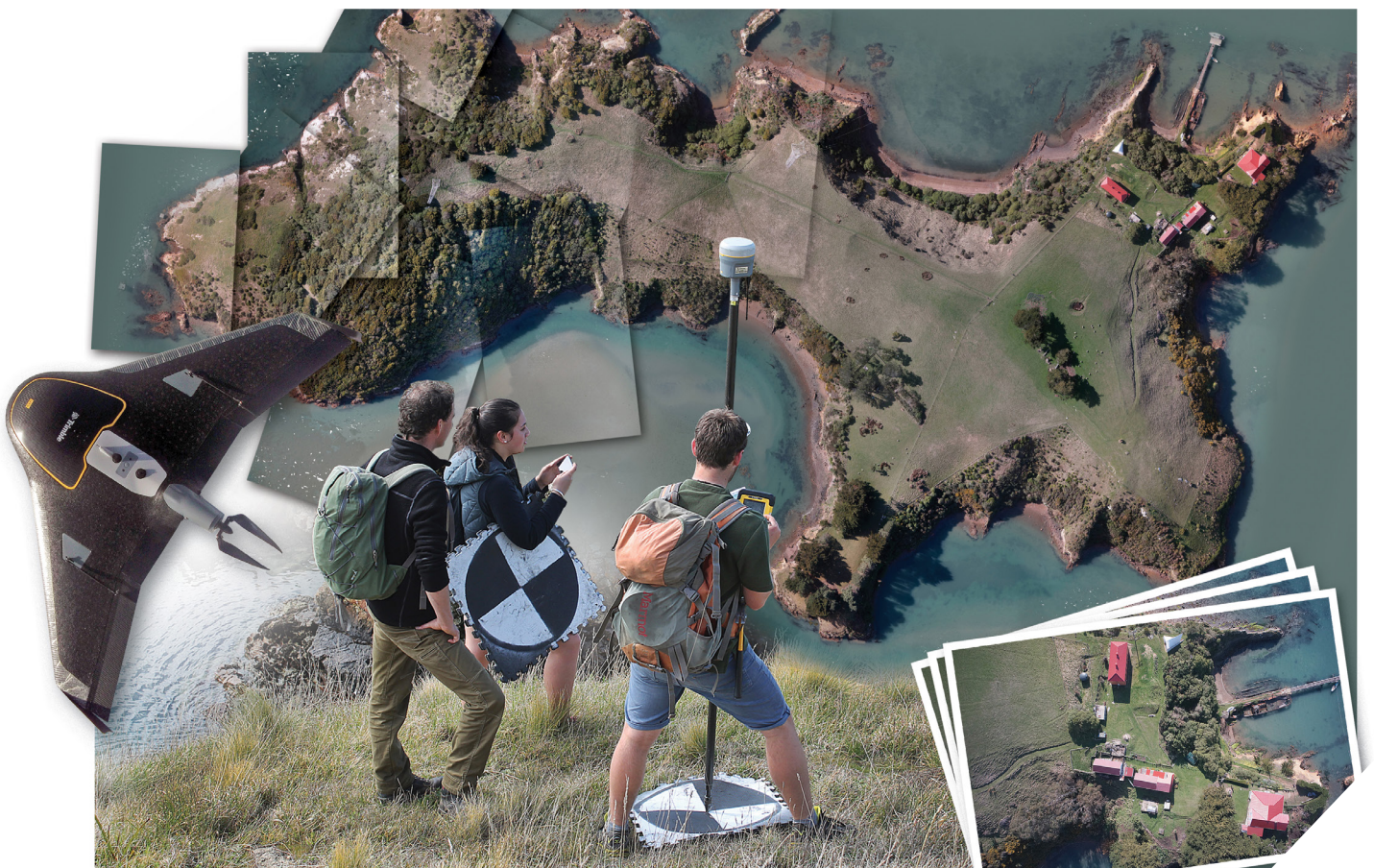
A practical look at the land

“Surveying at Otago is so broad you can do anything. I’m working in product management and development. Other classmates are doing residential subdivisions in New Zealand, hydrography - mapping the sea floor, others are doing engineering projects all over the world.”

Jonathan Davies BSurv(Hons) and Atmospheric Research (NIWA)

The Bachelor of Surveying (BSurv) is a four-year professional degree that allows both inside and outside work, has great employment prospects, and gives you an internationally recognised skill. You will become a specialist in precise measurement and an expert in land law and land ownership. You will learn to subdivide land and assess its development potential, undertake city and environmental planning, design urban infrastructure, and prepare resource consents. It even gives you the skills to map the ocean floor! To complement your lectures, you will gain hands-on experience in practical classes, computer labs and on field trips. This degree is internationally recognised for its quality and broad scope. It will really open up your world!

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Why study Surveying?

You will:

- gain a university qualification that is among the most employable offered in this country, in a profession that has a worldwide shortage of graduates
- be able to work both inside and outdoors
- design living spaces of the future - be in the forefront of a wide range of land development projects
- use state-of-the-art, high tech equipment
- benefit from the School of Surveying's unique student environment and its recognised academic excellence
- utilise mathematics knowledge as well communication skills and creativity to become a flexible problem solver.

Background required

The ideal secondary school subjects are English, Geography, Physics, Maths with Calculus and Maths with Statistics. If you've taken other subjects we can work out a suitable study programme for you in your first year at university.

Career Opportunities

Because Otago graduates have the skills to take on the full range of surveying activities immediately, you will have a wide variety of options, both in New Zealand and overseas. You might begin with a private sector company here in New Zealand involved in defining land boundaries, mapping and designing subdivisions (including roads, stormwater and sewerage systems), and preparing resource consents. Alternatively you might work for a government agency or a local authority, in their policy planning or GIS departments.

Some graduates do scientific research while others travel the world undertaking seismic surveys, oil exploration, mining, hydrographic surveying, or ensuring that the foundations for buildings and major engineering structures are correctly positioned. Others are involved in defining national and international boundaries for the United Nations. Many end up as consultants running their own businesses.

The challenges are many and the work is exciting. It is this variety and diversity that makes surveying such an enjoyable profession.

Frequently asked questions

Do I need to study at Otago?

Yes, generally, you must complete all four years of study at Otago.

How much of the job is outside?

Most surveying jobs are roughly 50/50 inside/outside — at least in the early years. If you choose a planning option, it will be considerably less outside. If you choose project surveying it will be more.

Are the employment prospects really as good as people say?

Yes. Over the last 15 years BSURV graduates have had as good a record of employment as doctors and dentists. There is typically more demand than we can supply for our graduates.

What can I expect to earn?

That depends upon your personal skills, where you are and how quickly you learn. Starting salaries for most New Zealand-based graduates are approximately \$55,000. Those working offshore would start on about \$80,000 or more.

Will new positioning technology limit future demand for surveyors?

This hasn't happened in the last 30 years, despite all the new technology developed in that time. Surveyors historically have embraced new technologies as they have evolved. The worldwide shortage of surveyors guarantees global opportunities into the future.

What you will learn

Your first year covers introductory papers in surveying, mathematics, spatial science and communication plus electives of your choice. The remainder of your degree focuses on a number of core subjects:

- Surveying methods gives you hands-on experience in using and calibrating surveying equipment. You learn about GPS (global positioning), and how to determine your position anywhere on Earth. You also learn the science of measurement (both on land and on the oceans), and how to analyse and use the data you collect.
- Papers in land tenure studies trace the development and application of land law in New Zealand in both Māori and Pakeha contexts. Combine this with cadastral surveying and you will be able to calculate and lay out land boundaries
- Papers in subdivision design and land development introduce principles of urban and rural design. You learn how to value land and design housing developments, including services such as roading and sewerage. A specialist paper on project management gives you the skills to convert designs into reality and managing construction contacts.
- Land planning papers explore the history of New Zealand's planning legislation, deal with the practical application of the Resource Management Act and examine environmental ethics.
- Finally, papers on how to use spatial data enable you to integrate all the above activities into geographic information systems (GIS) software.

PROFILE

Jimmy Van der Pauw

BSURV NZIS/SSSi Certified Professional Surveyor Level 1 (CPHS 1)

Jimmy hadn't yet decided what to study; only knowing that it would be something in the Applied Sciences.

"I remember seeing an image of a surveyor out in the field, taking observations on top of a snowy mountain in the University of Otago prospectus."

Thinking that it looked pretty cool, and realising a mixture of field and office work was what he was after in a career, he attended a Careers Day at the University of Otago where the vibrant student atmosphere thriving amongst the historic buildings of the campus sealed the deal for him.

The School of Surveying at Otago is New Zealand's only national school of surveying - students are very lucky to have a knowledgeable and enthusiastic group of lecturers who deliver a well-rounded skillset to the students - "something that I have used every day of my career thus far".

"With a few years under the belt, I now understand that surveying is a very technology driven industry, and the lecturers gave us not only an understanding of past and current technologies, but also the skills required to learn and adapt to new technology advances as they come along."

Many of the surveying papers also allow students to get out-and-about on the streets of Dunedin, designing mock subdivisions, measuring up the boundaries of student flats or observing the transit of stars during the daytime.

After completing his degree, Jimmy landed a job as an offshore surveyor based out of Taranaki where he specialised in seafloor mapping and ocean navigation. Then once he became more experienced he was based out of Singapore, and travelling to over 50 countries working on a variety of projects including oil and gas construction, subsea engineering and environmental mapping."

He is now working back home for Discovery Marine Ltd as a senior surveyor where his work takes him all over the country. Discovery Marine are among the leaders in the field of hydrographic surveying in New Zealand, specialising in mapping solutions for coastal and inland waterways within New Zealand, and throughout the Pacific Islands.

"Sometimes I have to pinch myself because my work often involves exploring the many nooks and backwaters of New Zealand's amazing harbours, rivers and lakes."

