

# Education

## Spatial science qualifications

There are several providers of spatial science qualifications in New Zealand including:

- [Canterbury University](#) – College of Science, Geography
- [Auckland University](#) – School of Environment
- [University of Otago](#) – School of Surveying, Spatial Sciences
- [Victoria University](#) – School of Geography, Environment and Earth Sciences.

## Surveying qualifications

Most of our surveying members spend four years obtaining a Bachelor of Surveying Degree or its equivalent, and many have also passed the Cadastral Survey Licensing Board's examinations, which entitles them to carry out land title surveys.

Qualified cadastral surveyors ensure that land measurements are accurate and that boundaries are marked and visible. These surveyors can confidently reproduce boundary marks erased by time and are the only professionals qualified to take accurate land measurements and to determine precise positions.

In addition to cadastral surveying, many of our members are competent and experienced in other fields of surveying such as land development, resource management, civil engineering and hydrographic surveying.

Survey Qualifications and Providers	Career Options
<ul style="list-style-type: none"> <li>• <b>Bay of Plenty Polytechnic (BOPP)</b> National Diploma in Surveying (NDS) and National Certificate in Surveying (NCS) and National Certificate in Hydrographic Surveying (NSHS)</li> </ul>	<ul style="list-style-type: none"> <li>• Survey Technician and Survey Assistant</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Unitec</b> Offers the National Diploma in Surveying (NDS), a 2 year full time study programme with part time options are available.</li> </ul>	<ul style="list-style-type: none"> <li>• Survey Technician</li> <li>• Survey Assistant</li> </ul>
<ul style="list-style-type: none"> <li>• <b>University of Otago Survey School</b> A four-year undergraduate degree, the Bachelor of Surveying, and postgraduate degrees</li> </ul>	<ul style="list-style-type: none"> <li>• Professional Surveyor</li> <li>• Registered Professional Surveyor</li> <li>• Licensed Cadastral Surveyor</li> </ul>

## Bachelor of Surveying

### Key points

- Recognised worldwide
- Four- year programme
- Covers theoretical and practical studies in surveying measurement, land planning and development, resource management and land law
- Options available to specialise in other areas
- Recognised by the Cadastral Surveyors Licensing Board (CSLB).

Allows admittance as a member of NZIS in the cadastral discipline. This is required to become a Licensed Cadastral Surveyor enabling licence holders to carry out and certify cadastral (land boundary) surveys in New Zealand.

Graduates can specialise in areas of surveying other than the traditional cadastral surveying and become NZIS members by demonstrating skills and experience in three of the 10 different disciplines.

Membership is available to graduates of the BSc (LPD), BSc (SM) in disciplines of land planning and development, photogrammetry or hydrographic surveying.

## National Certificate in Surveying (NCS)

### Key points

- The NCS is designed to train survey assistants and is a Level 3 qualification comprised of 83 credits.
- The National Certificate in Surveying (Assistants) can lead to the National Diploma in Surveying.
- NDS graduates with good pass grades and work experience can gain up to two years' exemption from the BSurv degree at Otago University – see the Surveying Career Roadmap.

## National Diploma in Surveying

### Key points

- The NDS is a Level 6 qualification requiring the completion of between 252 and 347 credits. Depending on how and where you choose to study, you could complete your NDS in two to four years depending on your experience and commitment. The NDS qualification offers a broad education in surveying. Continuing on with further study to complete a Bachelor of Surveying at the University of Otago is possible.
- Graduates from the NDS programme have a wide choice of career opportunities throughout New Zealand and overseas. These include CAD technologist, cadastral survey technician, engineering surveyor, digital terrain modeller, geodetic control surveyor, tunnelling and mining surveyor.

NDS graduates primarily work for engineering infrastructure and construction companies, and for consulting surveying and engineering practices.

- Survey technicians who work property boundary surveys do so under the supervision of a Licensed Cadastral Surveyor. The Unitec website has more information: [National Diploma in Surveying](#).

## Unit standards

The unit standards of the NDS, NCS and NCHS are on the New Zealand Qualifications Authority's [National Qualifications Framework website](#).

## Bay of Plenty Polytechnic – School of Applied Technology

You can study the NDS as a flexi student through the Bay of Plenty Polytechnic Windermere campus in Tauranga. The NDS programme comprises 262 credits and is designed to be completed over three years.

The polytechnic website has more information: [www.boppoly.ac.nz/go/programmes-and-courses/architecture-surveying](http://www.boppoly.ac.nz/go/programmes-and-courses/architecture-surveying).

## University of Otago National School of Surveying

The National School of Surveying, University of Otago is the only university in New Zealand offering professional courses in surveying. The undergraduate and postgraduate degree options are:

- Bachelor of Surveying BSurv – four-year degree
- Bachelor of Applied Science BAppSci (GIS) (Geographic Information Systems) – four-year degree
- Bachelor of Science BSc (LPD) (Land Planning and Development) – three-year degree
- Bachelor of Science BSc (SM) (Survey Measurement) – three-year degree (students can specialise in hydrographic surveying, engineering surveying or photogrammetry)
- Postgraduate Diploma of Science (PGDipSci)
- Master of Science (MSc)
- Master of Surveying (MSurv)
- Doctor of Philosophy (PhD)

The university website has more information: [www.otago.ac.nz/surveying](http://www.otago.ac.nz/surveying).

## Connexis Industry Training Organisation (ITO)

The NDS and NCS are available nationwide as on job training qualifications through Connexis.

Connexis NDS graduates will train in consulting surveying and engineering practices but could end up working anywhere in the land development, engineering infrastructure and construction industries in New Zealand or around the world. Candidates for these courses need to be employed by a surveying business and signed up with Connexis. Their employer needs to sign up to a training agreement with them and appoint an in-house Verifier. An Connexis assessor will be required to assess competence in the Unit Standards.

With appropriate instruction and experience provided by their employer, the candidate is able to learn on the job and progress at their own pace through the Unit Standards that comprise the qualification. A work book is provided by Connexis for each candidate, where the performance criteria have been converted into tasks. Connexis also supports the National Certificate in Surveying NCS (Hydrographic Surveying) which is a Level 4 Qualification of 154 credits and is designed for surveying assistants working in a hydrographic context.

Visit the [http: www.connexis.org.nz](http://www.connexis.org.nz) or contact: [askus@connexis.org.nz](mailto:askus@connexis.org.nz)

## Specialist Certification in Hydrographic Surveying

### Key points

- Recognised by NZIS and SSSI and demonstrates that a person has the necessary knowledge and experience to competently perform hydrographic surveys and associated activities
- The *Australasian Hydrographic Surveyors' Certification Panel (AHSCP)* is structured within the SSSI Hydrography Commission and is sponsored by, and comprises members of, the SSSI and NZIS
- AHSCP assesses applications for Specialist Certification in Hydrographic Surveying and informs both bodies of its decisions using the latest edition of the *International Hydrographic Organisation (IHO)* document S-5 Standards of Competence for Hydrographic Surveyors as its reference for assessment of competence. View this document at [www.iho.int](http://www.iho.int)
- An extensive portfolio of experience is required for Certification requires certification currency must be maintained by ongoing Continued Professional Development (CPD).

The AHSCP is currently comprised of the following members:

**Commodore Brett Brace**, RAN  
Hydrographer

Ex Officio, Chair

**Mr Martin Castalanelli** (SSSI)

Industrial Offshore Surveying

Nautical Charting Hydrography



## RESOURCE SHEET

<b>Lieutenant Commander Richard Cullen,</b> RAN (SSSI)	Private Practice
<b>Mr Neil Hewitt</b> (SSSI)	Hydrography for Coastal Zone Management
<b>Mr Barry Smith</b> (SSSI)	Education
<b>Mr Mark Sinclair</b> (SSSI)	AHSCP Secretary
<b>Mr Jasbir Randhawa</b>	

A DVD, *The Certification of Hydrographic Surveyors in Australasia Offshore Construction Hydrography*, is available. Contact the Secretariat (details below) for a copy or you can view it on YouTube: [Part 1](#) and [Part 2](#).

Guidelines for SCHS are available at:

[Australasian Hydrographic Surveyors Certification Panel](#)

Send applications to:

AHSCP Secretariat  
Australian Hydrographic Office  
8 Station Street  
WOLLONGONG  
NSW 2500

Email: [ahscp@hydro.gov.au](mailto:ahscp@hydro.gov.au)