

Contents

Ng Kai o Roto

-
- 1 Welcome to the School of Forestry | Nau mai, tauti mai ki Te Kura Ngahere
 - 3 School of Forestry | Te Kura Ngahere
 - 5 Bachelor of Forestry Science BForSc
 - 8 Bachelor of Engineering with Honours in Forest Engineering BE(Hons)
 - 10 Postgraduate study
 - 11 Staff of the School
 - 12 Adjunct Fellows and Lecturers
 - 12 The University of Canterbury | Te Whare Wānanga o Waitaha



Forestry Students: where do they come from, where do they go?

In a word, everywhere! In any given year, we have students who have come to the School from Invercargill to Northland, and we have Coasters and Cantabrians. Our international students come from China, Chile, India, Iran, Poland, Korea, Singapore, Switzerland and Sri Lanka. Among the undergraduate students, 25%

School of Forestry | Te Kura Ngahere at UC | Te Whare Wānanga o Waitaha is the only university department in Aotearoa New Zealand which offers professional forestry degree programmes including the Bachelor of Forestry Science, Bachelor of Engineering with Honours in Forest Engineering, Postgraduate Diploma in Forestry, Master of Forestry Science and PhD in Forestry.

The School is a member of the New Zealand Forestry Education Council (NZFEC) and is a member of the International Association of Agricultural Universities (IAAU). The School is also a member of the New Zealand Forestry Education Council (NZFEC) and is a member of the International Association of Agricultural Universities (IAAU).

For more information, please contact the School of Forestry at Te Kura Ngahere at UC | Te Whare Wānanga o Waitaha. Phone: +64 (0)3 325 1235. Email: forestry@uc.ac.nz

The School of Forestry is located at the Westport field station, which is used for practical courses and as a research centre by UC staff and students. It provides an excellent location for the study of native forests.

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Students regularly visit several wood processing industries in Waitaha Canterbury with which we maintain regular contact.

Inter-faculty cooperation

Forestry degrees at UC make full use of the expertise available within the University. In this way, the resources of the School are augmented to offer intellectually challenging courses covering virtually any of the broad fields of forestry. Strong links operate between the College of Engineering academic departments (particularly Chemical Process Engineering and Civil & Natural Resource Engineering), and also with departments within the Colleges of Science and Arts.

Graduate profile

The Forestry Science programme aims to provide students with the appropriate academic base and practical work experience from which they can develop into effective professional foresters. This implies graduates who are capable of independent thought, are aware of and responsive to society's needs, can communicate effectively, possess an excellent technical background relevant to forestry practice and are aware of the environmental, social and ethical context in which they will work.

International students

The School has a strong international student body at both undergraduate and postgraduate level. To date we have had postgraduates from close to 40 countries. If you are interested in applying for admission to any Forestry programme, you can get details on the application process, closing dates and scholarships at: www.canterbury.ac.nz/international

Forestry Students Society (FORSOC)

FORSOC was initially established in the first School of Forestry (1924-32) and re-established following the opening of the present school in 1970. The Society fosters social interaction between students and staff, publishes an annual magazine "Te Kura Ngahere" and organises social and sporting events throughout the academic year. The committee also organises memorable labelled clothing collections each year.

Scholarships

Not all awards fund the full four years of study and associated costs, but they certainly offset them and can also provide great opportunities for future summer or graduate employment. www.canterbury.ac.nz/get-started/scholarships/types/first-year/

Current Awards

UC Hiranga Scholarship – for Academic Excellence

(currently valued at \$5,000) for up to 500 first-year students who achieved NCEA Level 2 with Excellence

UC Horomata Scholarship – for Emerging Leaders

\$6,000 towards accommodation fees at a UC-recognised halls of residence in the year of tenure, or second year tuition fees, as well as an opportunity to participate in a UC-sponsored leadership programme.

UC School of Forestry High Achievers Awards

(5 awards valued at \$2,000 each), applications required with a closing date of 15 August, specifically for first year BForSc students. See also www.canterbury.ac.nz/scholarships

Hawkes Bay Forestry Group Forestry

Scholarship (currently valued at \$5,000 for one year for first year students enrolling in BForSc or BE(Hons) Forest Engineering. For information go to www.hbforestrygroup.co.nz.

Kāingaroa Timberlands Kaitiaki o te Ngahere

Scholarship (currently valued at all tuition and non-tuition fees) awarded to one student in the Bachelor of Forestry Science, covering all fees from the date of the award until degree completion – not exceeding four years (see www.tll.co.nz/employment).

Ngā Karahipi Uru Rākau Forestry Scholarships

(currently valued at \$8,000 each year for the four-year degree, and a paid internship with an appropriate employer in the forestry sector) to support students studying the Bachelor of Forestry Science and the Bachelor of Engineering (Honours) Forest Engineering specialisation. For more information, go to www.mpi.govt.nz/forestryscholarships. Applications open 1 June and close 15 August.

WIDE Trust Tertiary Scholarships support full or part-time study towards an undergraduate qualification relevant to an intended career in the forestry sector. Values have ranged from \$2,000 - \$5,000. For more information go to www.widetrust.org.nz. Applications are open every year, closing in late January.

It may not be everyone's first thought when it comes to careers in forestry, but for Amy it is the people that make the industry special.

'One of the best things about my job is that I get to meet and work with a wide range of people,' she says. 'I visit our crews, do health and safety and environmental audits, plus office work and meetings. It makes it very dynamic as I'm doing something different every day of the week.'

It was also what Amy enjoyed most about her experience at university.

'The School of Forestry at UC itself became almost like a second family, especially with the amount of time you end up spending there in the latter years,' she says. 'The lecturers and the students themselves are what really make it worthwhile. Lifelong mates are created between times of studying and having a good time!'

Amy says that she chose to study Forestry 'on a whim', but soon became sure it was the right decision.

'I had some input from my grandmother who took me out to visit a farm forester she knew. It wasn't until I was in the thick of it that I knew this is what I wanted to do.'

After completing her degree at UC, Amy landed her first job as a graduate with Rayonier New Zealand/Matariki Forests as a Log Production Coordinator, and is now currently a Harvest Planning Manager.

'The major part of my role involves supervising harvesting crews in terms of harvest planning, log quality, health and safety and the environment. I determine the weekly log grades to be cut based on customer orders and estimated grade outturn in the bush.'

Amy feels that her studies set her up well for this role and that in general there are many advantages to studying Forestry Science at UC.

'The degree provides a holistic understanding of the basics required to understand the day-to-day things that occur in the real world of forestry,' she says.

'I would say to others, definitely give it a go. You learn a vast range of skills such as management, economics, soils, wood science, harvesting, environmental forestry, biosecurity... the list goes on. The career paths are endless! Not only that but you get to meet a really awesome bunch of people!'

'It's very dynamic as I'm doing something different every day...'

Amy Jackson

Bachelor of Forestry Science with Honours
Harvest Planning Manager, Ernslaw One

Bachelor of Forestry Science

The structure of the BForSc degree offers exciting opportunities for study in a range of disciplines. The degree is management oriented, and requires some study of science, commerce and engineering subjects.

The first year combines four FORE100-level papers, a core Biology course, a Statistics course and two 100-level electives of your choice. (First year forestry students are not in fact committed to a forestry degree as almost all of their credits can be transferred to a BSc or a BCom.)

The first year may be taken at any Aotearoa New Zealand university – students intending to do this need to contact the School of Forestry for information on equivalent courses in the year they plan to study. Students who do not complete their first year at Canterbury will normally take FORE131 and FORE141 in the 2nd Year at Canterbury (refer to page 6). The FORE100 series of subjects are compulsory papers in the first year and the equivalent extramural paper for FORE111 must be taken by students at other New Zealand universities. You have the choice of semester with FORE105 (either 1st, 2nd or summer semesters). In subsequent years, this basic knowledge is applied to the forest situation. On completion of the degree students will have a broad competence, allowing them to work in any field in forestry and in other areas of land resource management.

Many forestry skills in management are highly relevant and transferrable to other sectors of the economy, where BForSc graduates are already working.

Entry

There is no restriction on numbers entering degree studies.

- Entry to Year 1 at UC is normally from NCEA Level 3 university entrance – we do not have pre-requisite subjects for entry to the BForSc
- Direct Entry to Year 2 courses may be from:
 - i) Other suitable first year courses at UC or elsewhere at other Aotearoa New Zealand universities;
 - ii) A completed NZ Certificate in Science with suitable subjects
 - iii) Year 13: in the case of students with very high Scholarship/NCEA credits



University equivalents

- Direct Entry to Year 3 may be from a completed Bsc or other degree with passes in suitable subjects
- Students with a completed NZ National Diploma in Forestry qualification may be granted a special course of study in recognition of their previous training.

There are no subject requirements. However, we recommend Year 13 Biology and Maths (including Statistics and Probability). Chemistry and English would also be useful.

Interested students should communicate with the School of Forestry | Te Kura Ngahere at UC. Students intending to study forestry in their first year at University should pre-enrol for the subjects shown on page 6.

The same procedure applies for applicants taking their first year at other universities. These students should communicate with the the School of Forestry | Te Kura Ngahere at UC before the end of January (earlier if possible) in the year in which they intend to commence, so that an appropriate set of papers may be agreed on before enrolment. The email contact for the School of Forestry is forestry@canterbury.ac.nz.

Students who decide to transfer to a BForSc after completing one year or more of another degree should have a minimum of 120 points including passes in Biology and Statistics. It may be possible to proceed if one of these subjects has not been taken, provided that a good grade average has been achieved overall. Again, students should contact the School of Forestry | Te Kura Ngahere in the first instance.

Financial support, if sought and where relevant, may be available through Ministry of Māori Development | Te Puni Kiri or private forestry companies. In any given year there will be scholarships you may be eligible for. Some you must apply for, others you will automatically be considered for. Scholarships will be awarded based on high school grades. For further information on the awards go to: www.canterbury.ac.nz/scholarships

Spending his childhood in rural Te Araroa, Reihana has spent most of his life pursuing activities in the great outdoors and developing an interest in the land.

'The outdoors soon became a passion of mine and with the promising career opportunities that the Forestry degree posed, it was obvious that forestry was a suitable career option,' he says.

Bachelor of Engineering, with Honours in

ENGR403	Introduction to Fire Engineering
ENGR406	Wood and Engineering Wood Products
ENNR423	Sustainable Energy Systems
ENCN415	Pavement Engineering
ENCN452	Advanced Geotechnical Engineering
ENGE412	Rock Mechanics and Engineering
any	15 point 400-level option approved by the Director of Studies

Other course requirements

In addition to the academic requirements discussed above, there are certain other formal requirements for the bachelor's degree in Forest Engineering. Forest Engineering students must

complete an approved course of workshop training prior to enrolling in the Third Year. They must also complete 800 hours of approved practical work, normally in no more than three periods. In addition, Forest Engineering students must submit an approved valid First Aid Certificate.

Exchange programme

Forest Engineering students are eligible for an exciting year of overseas exchange study at either University of British Columbia (UBC), Vancouver, Canada or Virginia Polytechnic and State University (VT), Blacksburg, Virginia.

Wood processing focus

The formal exchange programmes with UBC or VT can be used to facilitate a study stream in Solid Wood Processing. Students approved in that stream take ten courses in wood processing over a year's study at either UBC or VT, normally commencing in the second semester of the Third Year. Courses taken overseas cover all

'Forest Engineering combines my interests perfectly: I love physics, maths, and trees!

I really like the idea of working with nature rather than against it – forests provide so many products and services that managing them well means huge benefits for us and future generations. I decided a degree in Forest Engineering will give me the skills to do just that, especially in New Zealand with our unique and important forestry sector.

UC is the only university that offers Forest Engineering in Australasia, but I would say that UC is a good choice for almost any degree. Christchurch is full of new opportunities for me, and I wanted the new experience of moving away from home. I also liked that UC has a massive range of clubs to get involved in outside of courses.

I got quite enthusiastic at Clubs Day and signed up for lots of clubs, but the ones I have enjoyed most are UCM (University of Canterbury Motorsport, where we build an electric racing car) and CUTC (the Canterbury University Tramping Club).

I'm really enjoying my courses. Since Forest Engineering matches my interests so well, most of what I'm learning has been exciting and thought-provoking. And my lecturers are great; it definitely comes across how passionate they are about their subject.

I've met so many diverse people in clubs, courses, and my hall. At UC I've felt like I have so

many new possibilities both in my degree and outside it.

Forest Engineering is the best of both worlds between Forestry and Engineering. Engineering is a lot of fun because there's so many people to talk to who are learning the same thing as you, and there's all sorts of support with your degree and courses. The School of Forestry is smaller, so you get a sense of community and knowing everybody, including the lecturers and older-years.

My Forestry course is much smaller than my Engineering courses, so I feel involved in the lectures and labs and I've made great friends. I love the content I'm learning; I've always enjoyed maths and physics, but my Forestry course has been my favourite. I had no idea forestry was such a diverse sector, and looking at all the social, political, economic, and biological factors in forests is fascinating.

I think there is a place for everyone in forestry. The two main paths at UC into forestry are Forestry Science and Forest Engineering, and they each have a different mix of subjects and courses that form the degree. I recommend looking into the course descriptions (all the information is available on the UC website) to see what you might enjoy.

It's hard to know what the jobs in forestry are like until I try them, which is why I'm so excited for the summers in my degree. All Engineering degrees include work experience, but my forestry scholarship (Ng Karahipi Uru R kau) from the Ministry of Primary Industries connects with companies looking for interns every summer.



I'm looking forward to building up real workplace skills and having an informed direction for my career before the end of my degree.

'I had no idea forestry was such a diverse sector..'

Ha. Ha

Studying towards a Bachelor of Engineering with Honours in Forest Engineering

Postgraduate study

Thinking beyond bachelor's studies? We offer

Professor and Head

B R Manley, BForSc(Hons), BBS
(Accounting), PhD(Wash), FNZIF

Professors

E G Mason, BSc(For), PhD(Cant),
FNZIF

J M (Rien) Visser, BE(Hons), ME,
Dr nat tech(Bodenkultur)

Associate Professors

C Altaner, Diplom Holzwirtschaft
(Hons), PhD(Hamburg)

L A Apolaza, BForSc(Hons),
ForEng(Chile), PhD(Massey)

D C Evison, BA, BForSc(Hons),
PhD(Wash)

J A Morgenroth, BSc, MFC(Toronto),
PhD(Cant)

Senior Lecturers

S M Pawson, BSc, MAppSc(Hons),
PhD(Cant)

Wide TRUST Senior Lecturer in
Timber Engineering and
Engineered Wood Products:
H T Lim, BScW, MEng, PhD(UBC)

Lecturers

S V Wyse, BSc(Biol), BSc(Hons),
PhD(Auckland)

WIDE Trust Lecturer in
Geospatial Technologies: C Xu,
BForSc(Hons), PhD(Cant)

Director of Studies (Forest Engineering)

J M (Rien) Visser, BE(Hons), ME,
Dr nat tech(Bodenkultur)

Technicians

D K Clark, NZCS(Stats), BSc(Massey)

G Hendriks, CertHortPractice

M Holzenkämpfer, Dr rer nat
(Naturstoffchemie) (Georg-August
Universität)

M Sharma,

Adjunct Fellow and Lecturer

Professor Emerita

Roger Sands, BScFor(Hons), PhD



Educated at Australian National University, former Director of University Studies at the School of Forestry

at Melbourne University and recently retired as Head of School of NZ School of Forestry. Research interests include tree physiology, soil science, silviculture, agroforestry, site productivity and forest management.

David Norton, BSc(Hons), PhD



A plant ecologist. Research interests in conservation biology and management, ecological restoration

and sustainable land management.

Adjunct Senior Fellows

Mark Bloomberg, BForSc(Hons), MAppSc, PhD(Lincoln)



Mark joined the School of Forestry in 2008 after completing a Masters and PhD at Lincoln University.

Research interests include site productivity, regeneration ecology, agroforestry and tropical forestry. Before undertaking postgraduate study, he worked in forest management and soil conservation.

Peter Clinton, BSc, MSc, PhD(Cant)



A graduate of the School of Forestry, has worked with Forest Research Institute and now Scion/Ensis.

Specialises in soils and tree nutrition.

Nick Ledgard, QSO, BSc, MSc(Bangor)



Since joining the Forest Research Institute in 1971, Nick has specialized in the growing of a range of species in New Zealand's farmland environments. This, together with his long and close association with the NZ Farm Forestry Association makes him well suited to teach the School's course on 'Trees in the NZ Landscape'.

UC Restoration Ambassador Research Associate

Adam Forbes, MSc, PhD (Cant)



Educated at Massey University, University of Auckland, and recently completed a PhD in Forestry at

University of Canterbury. Currently working as an Ecological Consultant

and Researcher. Adam's interests include forest regeneration beneath exotic forest canopies, restoration of native ecosystems, and biodiversity conservation – especially in lowland production landscapes.

Adjunct Fellow

Juergen Esperschuetz, Dipl-Ing Agr, PhD (TUM, Germany)



Juergen has been working in a variety of scientific areas, including rhizosphere dynamics and plant

soil interactions, ecosystem processes, mass spectrometry and stable isotope applications, as well as organic agriculture and soil fertility. His current research focus is around the beneficial use and re-use of biowastes.

The University of Canterbury | Te Whare Wānanga o Waitaha



Ranked in the top one percent of the world's universities*, the University of Canterbury | Te Whare Wānanga o Waitaha offers a stimulating range of courses, a vibrant campus environment with students from around the globe and a great student lifestyle. UC balances the best of university life.

Be one of tomorrow's leaders

UC has been producing leaders for 140 years and has built up an international reputation for its high quality degrees, teaching staff and research. Some of our more well-known graduates include former Prime Minister John Key, Nobel prize-winner Ernest Rutherford, Sir Apriana Ngata – New Zealand's first Māori graduate, former All Blacks rugby coach Sir Graham Henry, children's author Margaret Mahy, television and radio presenter Toni Street, and comedian Rhys Darby.

Learn from the best

At UC, you'll learn from lecturers who write university textbooks, are internationally respected and push the boundaries of knowledge. The University's world-class education is also enhanced by the many outstanding international academics who visit each year on our staff exchange programmes. You may be taught by academic staff from the Universities of Oxford or Cambridge.

Use unique field stations

UC is very strong in field-based sciences. We have the most extensive network of field stations for student and staff research of any university in Aotearoa New Zealand, including stations at Kaikōura, Cass, Westport, the sub-Antarctic Snares Islands and Antarctica, and New Zealand's premier astronomical research facility at Teihawai Mt John, Takapū | Tekapū. In addition we operate a field station in Nigeria as part of the Nigerian Montane Forest Project.

* QS World University Rankings 2018

Taking the next step

If you've decided that studying at the University of Canterbury | Te Whare Wānanga o Waitaha is an option for you, here is what you need to do. Remember, it's never too early to start thinking about what degree to take and what subjects to study.

If you're at school – work hard to make sure you meet UC's entry criteria which makes getting into university so much easier. If you're in Year 11 or Year 12, make good subject choices to give yourself the best opportunities. If you have left school, check that you meet UC's entry criteria.

Research the subjects and degrees available at UC and pick the ones that suit your interests and goals. Seek advice from parents, professionals, lecturers, other students, your careers advisor and classroom teachers and the UC Careers, Internships & Employment team.

Contact Student Liaison | Tu Rūpū Takawaenga or look out for their visits to your region.

Plan your course. Student Liaison | Tu Rūpū Takawaenga can assist you with course planning. Phone 0800 827 748 to make an appointment on campus or to ask for help. There are also regional offices in Tāmaki-makau-rau Auckland and Whanganui-a-Tara Wellington. Or you can fill in an online course planning form at www.canterbury.ac.nz/liaison.

How can I find out more?

To find out more about...	Go to this website...
Accommodation	www.canterbury.ac.nz/accommodation
Admission Enrolment Fees	www.canterbury.ac.nz/enrol
Careers	www.canterbury.ac.nz/careers
Courses, subjects, qualifications	www.canterbury.ac.nz/study/qualifications-and-courses
International students at UC	www.canterbury.ac.nz/international
Māori students at UC	www.canterbury.ac.nz/support/akonga-maori
Pacific students at UC	www.canterbury.ac.nz/support/pasifika
Postgraduate and graduate study	www.canterbury.ac.nz/postgraduate
Regulations	www.canterbury.ac.nz/regulations
Headstart preparatory courses	www.canterbury.ac.nz/get-started/transition
Scholarships	www.canterbury.ac.nz/scholarships
Student Liaison	www.canterbury.ac.nz/engage/school-resources/liaison
Student loans and allowances	www.studylink.govt.nz

