



# FORESTRY

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# NGAHERE



UNIVERSITY OF  
CANTERBURY

*Te Whare Wānanga o Waitaha*  
CHRISTCHURCH NEW ZEALAND

Turn your passion for the  
environment into a career



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**Forestry is the science and practice of managing forests. It is about considering environmental goals, safety and economic drivers.**

# Explore the World of Forestry

Forestry is a dynamic and essential field dedicated to the sustainable management of natural resources and the conservation and restoration of forests.

In New Zealand native forests cover almost ¼ of the landscape and the plantation forestry industry is a cornerstone of the economy, covering over 1.7 million hectares. Forestry contributes billions to the country's GDP. With strong international demand for sustainable timber and wood products, the industry offers vast opportunities for growth and career progression.

From hands-on roles in forest management and harvesting to high-tech careers in remote sensing, GIS mapping, sustainable product innovation, biosecurity, native forest management and

conservation, forestry in New Zealand is evolving rapidly. Advancements in technology, including automation, drones, and AI-driven analytics, are enhancing efficiency and sustainability, while environmental initiatives focus on carbon sequestration, biodiversity conservation, innovations in product development and climate change mitigation. With a growing emphasis on sustainability and innovation, New Zealand's forestry sector is not only a vital economic driver, but also a leader in responsible environmental stewardship.

- **The School of Forestry Te Kura Ngahere offers two under graduate degrees;**
  - > **Bachelor of Forestry Science – BForSc (optional honours)**
  - > **Bachelor of Engineering with Honours in Forest Engineering – BE(Hons)**
- **Our forestry programme is well respected with excellent employment opportunities**
- **These degrees combine hands-on fieldwork with classroom learning, and attracts like-minded individuals who often enjoy a range of outdoor pursuits**





# Why Choose the School of Forestry | Te Kura Ngahere

The School of Forestry stands out as a leader in forestry education in Australasia, offering a unique blend of academic excellence, hands-on training, and cutting-edge research.

Our program emphasises sustainable forest management, conservation, and environmental stewardship, equipping students with practical skills through extensive fieldwork, laboratory and workshop facilities, and partnerships with industry leaders. The School of Forestry programmes encompass a wide range of classes from ecology to economics, management to marketing, silviculture to wood products and many more.

Students benefit from expert faculty, innovative technology, and access to diverse forest ecosystems that serve as living laboratories. Many study scholarships are available from industry and the WIDE trust. With a strong focus on real-world problem-solving and interdisciplinary learning, our graduates are well-prepared for careers in forestry, conservation and natural resource management.







# Why study Forestry Science at UC?

Forestry Science is a dynamic and interdisciplinary degree focused on the sustainable management, conservation, and use of forest resources. Our students gain a strong foundation in environmental science, biology, economics, and policy, while also developing skills in technologies such as drones, GIS mapping, and remote sensing. These tools are transforming how we understand, monitor, and manage forest landscapes.

Our Forestry Science graduates are in demand both in New Zealand and globally. They're equipped to lead in a changing world—combining scientific knowledge with innovation to meet the demands of a growing bioeconomy.

The School of Forestry at UC is internationally recognised and closely connected with industry, ensuring that graduates are highly employable. Career paths include commercial forestry,

environmental consultancy, wood processing, conservation and restoration ecology, policy, and innovation and research. Most students secure roles before graduation.

Our programme blends classroom learning with fieldwork and hands-on, real-world problem solving. Students are trained to solve complex environmental and resource management problems, balancing ecological, economic, and social

needs. Students don't just learn about forests—they learn how to care for them, improve them, and shape their future. It's the ideal choice for those passionate about sustainability, innovation, and making a lasting global impact.

At UC, we don't just grow trees—we grow future-focused graduates, committed to making a difference for our forests and our planet.

# Course Requirements

## Bachelor of Forestry Science

### Year 1

FORE111	New Zealand Forests and Society
FORE131	Trees in the Landscape
FORE137	Wood-based Bioeconomy
FORE141	Forest Growth and Measurements
FORE151	Commercial Aspects of Forestry
BIOL112	Ecology, Evolution and Conservation
STAT101	Statistics 1
Elective	Any 15 point, 100-level course

### Year 2

FORE201	Wood Science
FORE203	Soils and Site Quality
FORE205	Introduction to Forest Engineering
FORE215	Introduction to Forest Economics
FORE219	Introduction to Silviculture
FORE220	Forest Biology
FORE224	Regression Modelling
FORE242	Geospatial Science in Forest Monitoring and Management

### Year 3

FORE301	Wood Processing
FORE316	Forest Management
FORE318	Plantation Silviculture
FORE320	Forest Ecology and Invasion Biology
FORE422	Forest Harvest Planning
Elective	30 points, chosen from list below

### Year 4

FORE419	Management Case Study
FORE449	Environmental Forestry
Electives	5 courses, chosen from the list below

### Elective courses for 3<sup>rd</sup> & 4<sup>th</sup> year

FORE411	Advanced Silviculture
FORE423	Forest Transportation and Road Design
FORE426	Forest Products Marketing and International Trade
FORE435	Forest Economics 2
FORE436	Forest Tree Breeding
FORE437	Advanced Wood Products Processing
FORE443	Biosecurity Risk Management
FORE448	Advanced Remote Sensing in Forestry and Natural Resource Management
FORE414	Dissertation (only for Honours students, by invitation)
Up to 30 points of courses at 200, 300 or 400-level from another relevant degree programme, with approval from the Head of Department	

## Bachelor of Engineering with Honours in Forest Engineering

### Year 1

ENGR100	Engineering Academic Skills
ENGR101	Foundations of Engineering
PHYS101	Engineering Physics A: Mechanics, Waves, Electromagnetism and Thermal Physics
EMTH118	Engineering Mathematics 1A
EMTH119	Engineering Mathematics 1B
COSC131	Introduction to Programming for Engineers
CHEM111	Chemical Principles and Processes
ENGR102	Engineering Mechanics
Elective	Any 100-level course

### Year 2

EMTH210	Engineering Mathematics 2
FORE205	Introduction to Forest Engineering
FORE215	Introduction to Forest Economics
ENCN213	Design Studio 1
ENCN221	Engineering Materials
ENCN231	Solid Mechanics
ENCN253	Soil Mechanics
ENFO204	Forest Measurement

### Year 3

FORE242	Geospatial Science in Forest Monitoring and Management
FORE301	Wood Processing
FORE316	Forest Management
FORE422	Forest Harvest Planning
ENCN304	Deterministic Mathematical Methods
ENCN353	Geotechnical Engineering
ENCN371	Project and Infrastructure Management

### Year 4

FORE423	Forest Transportation and Road Design
FORE448	Advanced Remote Sensing in Forestry and Natural Resource Management
ENFO410	Forest Engineering Research
ENFO499	Industry Field Programme

### Plus 4 electives from the list below, or an elective approved by the Director of Studies

FORE426	Forest Products Marketing and International Trade
FORE435	Advanced Forest Economics
FORE437	Advanced Wood Products Processing
FORE443	Biosecurity Risk Management
FORE449	Environmental Forestry
ENGR403	Fire Engineering
ENCN415	Pavement Engineering
ENCN452	Advanced Geotechnical Engineering





# Why study Forest Engineering at UC?

Forest engineering is a hybrid of civil engineering, forestry and management. It requires people who have the skills to solve engineering problems in a large landscape; whilst balancing economic, environment, societal and health and safety requirements.



Forest engineers design, evaluate and manage the operational systems that make the forest industry work from designing new roads, culverts and bridges; to planning harvest operations and logistics. Forest engineers work with the latest technologies, integrating them to optimise and improve the work, they supervise employees and contractors and ensure that safety standards are maintained.

At the School of Forestry, our students are taught to consider and look after the environment. As a Forest Engineer you may steer projects through resource consent and guide projects to ensure high environmental standards are maintained.

Forest engineers know the forest environment. They are the essential link between growing forests and using forest resources.





# Career opportunities

Graduates with a degree in Forestry Science or Forest Engineering have access to a diverse and rewarding range of career opportunities.

From sustainable forest management and conservation to environmental consultancy and policy development, these professionals play a crucial role in shaping the future of our natural resources. They can work in government agencies, non-governmental organizations, research institutions, and private industries, overseeing forest health, biodiversity, and the efficient use of forest resources.

Careers can also span across forest restoration, land reclamation, and ecosystem services, ensuring that our forests continue to thrive for future generations.

With the growing global focus on climate change, renewable resources, and environmental stewardship, Forestry Science and Forest Engineering graduates are well-equipped to lead the way in creating a sustainable, green future.

## Examples of roles our students have gone into:

**Forester**

**Forest Scientist**

**Forest Ecologist**

**Estate & Environmental Planner**

**Conservationist**

**Environmental Officer**

**Biosecurity Officer**

**Forest Estate Manager**

**Harvest Manager**

**Transport Planner**

**Policy & Resource Planner**

**Data, Forestry Analyst**

**Researcher**

**Forestry Consultant**

**Forest Economist**

**Harvest & Wood Flow  
Coordinator**

**Forest Development Manager**

**Forest engineers**

**Forest consultants**

**Project engineers**

**Civil engineers**

**Infrastructure engineers**

**Site managers**

**Wood Processing**



“No two days are the same in my role—one day I might be out in the field checking tree health or crews, and the next I’m in the office working on research and development projects.

My forestry degree gave me a strong foundation across a wide range of subjects and prepared me for a career in an industry that’s both dynamic and in high demand, in New Zealand and internationally. It’s a unique qualification that opens doors around the world.”



**Emma**

Bachelor of Forestry Science

Forester – Rayonier Matariki Forests





‘My job integrates technical forestry expertise with a strong understanding of global investments. My role combines technical forestry knowledge with global investment insight, along with strong data analysis and communication skills—capabilities I developed at UC. I especially valued UC’s practical, hands-on learning; for instance, our forestry economics course gave me real-world experience assessing carbon investments, which directly relates to my current role.’



**Wenqian (Poppy)**

Master of Forestry Science with Merit



‘I enjoy Forestry’s ability to cover a range of topics, giving students a broad understanding of what “Forestry” is all about, and the opportunity to get outside and see real life operations as well as providing summer work opportunities. It also attracts likeminded people with similar interests.’



**Reihana (Ngāti Porou)**

Bachelor of Forestry Science with Honours



‘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.’



**Heather**

Bachelor of Engineering with Honours in Forestry



I felt prepared for work after uni, due to the degree covering a large variety in subjects and being “not only about trees”.

I studied a wide range of subjects including biology, statistics, landscape, climate change and even urban design.

If you want to study Forestry, UC definitely is your first choice. UC has a strong reputation both in New Zealand and around the world.



**Denny (Zhibin)**

Bachelor of Forestry Science with Honours

Registered Forestry Consultant, PF Olsen Ltd





# Further study options

## Thinking beyond bachelor's studies?

We offer postgraduate studies including:

- Postgraduate Diploma in Forestry (PGDipFor)
- Master of Forestry Science (MForSc)
- Doctor of Philosophy (PhD)

Programmes are flexible, designed to cater to students individual needs. Much of the postgraduate study is tied to the research being pursued in the school.

More detail on each programme is available on the website, or contact us to explore your options.

## Exchange programme

Undergraduate students have the opportunity to study for a semester at the University of British Columbia in Canada and Virginia Tech and State University in the USA.

## Where to go for more information

If your ready for the next step, explore our website [www.forestry.ac.nz](http://www.forestry.ac.nz) for more information.

The future students team can provide support and information on degrees, scholarships, accomodation and other aspects of university life. Email [futurestudents@canterbury.ac.nz](mailto:futurestudents@canterbury.ac.nz) or visit [www.canterbury.ac.nz/study/getting-started/future-students-office](http://www.canterbury.ac.nz/study/getting-started/future-students-office)

## Scholarships

There are many scholarships available for forestry students, and these can change from year to year. In addition to UC scholarships, many forestry companies and organisations such as WIDE Trust and iwi offer scholarships. Check out our website for a list of current scholarships options.

**Contact us for further information**

[forestry@canterbury.ac.nz](mailto:forestry@canterbury.ac.nz)

[www.forestry.ac.nz](http://www.forestry.ac.nz)

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