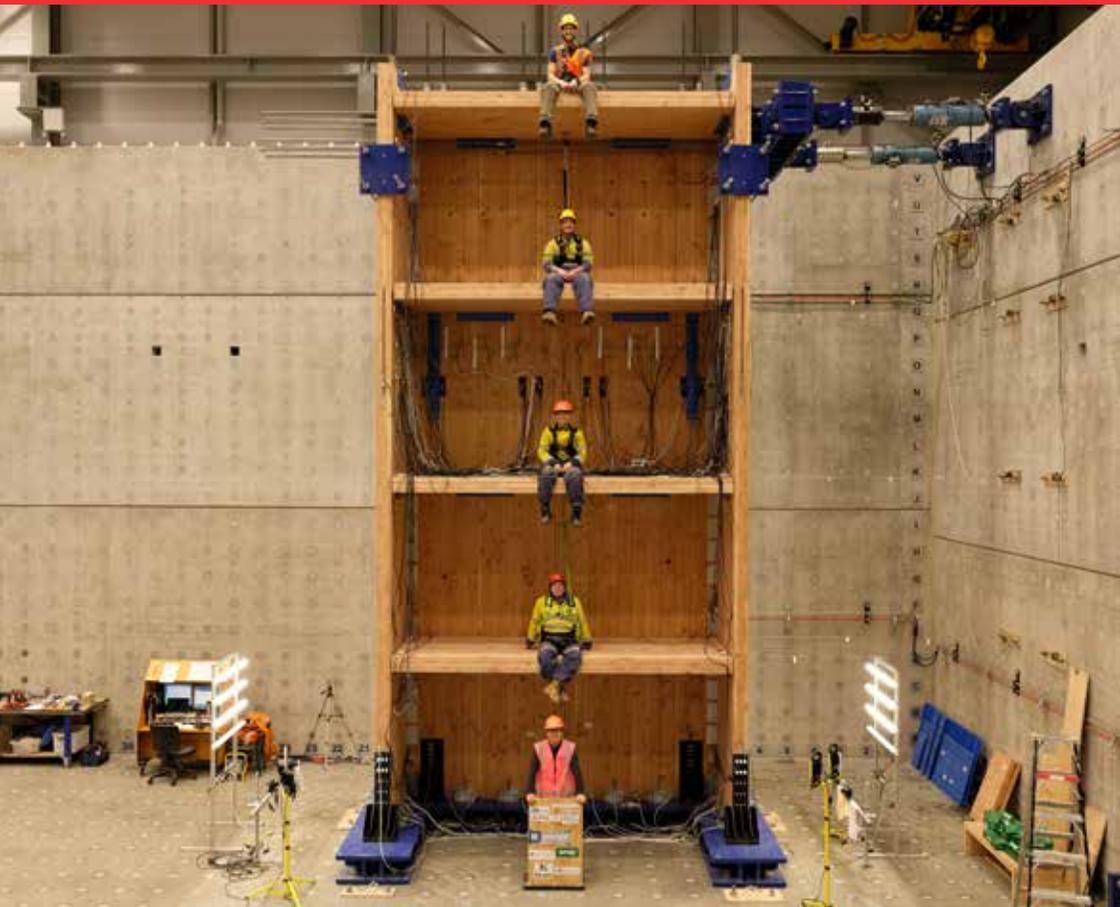


Lab Tours

Welcome to our laboratories
where we create, invent, problem
solve, innovate and disrupt!



Civil and Natural Resources Engineers design the structural and functional elements of our cities and towns.

They work towards achieving sustainability and resilience within our buildings, bridges, dams, roadways, water and waste management, fire systems and other city services. Their aim is to protect our natural resources whilst improving our living environment.

We teach you the vision

Lecturers are amongst the world leaders¹

Ranked 9th in the world for Civil Engineering²

Well connected with industry

Plan • Design • Build

Protect • Nurture • Lead

Sustain • Resolve • Innovate



¹ Elsevier ² Shanghai Rankings



Welcome to our department

We are glad you have chosen to come and meet us, look around the campus and visit our labs. We hope this can provide you with a brief introduction as to what a Civil Engineering qualification can mean to you.

It is a career that brings such diversity, no two days are the same, work opportunities can occur all over the world and it is a well-recognised profession that works with the leading edge of technology and a diverse range of people from many areas of construction.

Our department has a long history of producing high-quality graduate engineers for over a century. You will be part of that tradition.

UC Civil and Natural Resources Engineering graduates are highly sought after. By the time you graduate, you will have developed in to a professional engineer.

But it is your personal skills and professional attributes that will likely lead to successful and satisfying careers. It's this personal growth that we nurture and treasure here at the University of Canterbury.

Ask as many questions as you can on this tour, follow us on social media or contact our team if you want to talk about your future.

*Professor Daniel Nilsson
Head of Department*

**Creating
effective
solutions**



**Keeping
us safe**



**Protecting our
resources**



**Achieving
sustainability**



The Bachelor of Engineering (Civil) Honours and Bachelor of Engineering (Natural Resources) Honours degree are each a four year degree.

The first year you will study a general course. In your second year you will choose a specialisation and specific degree path. Second year students attend the Second Year Camp in the first semester and Natural Resources students attend the engineering field trip. There are many opportunities for industry engagement. All students have to complete 800 hours of practical work experience.

For more details on the course check out our [web page](#).

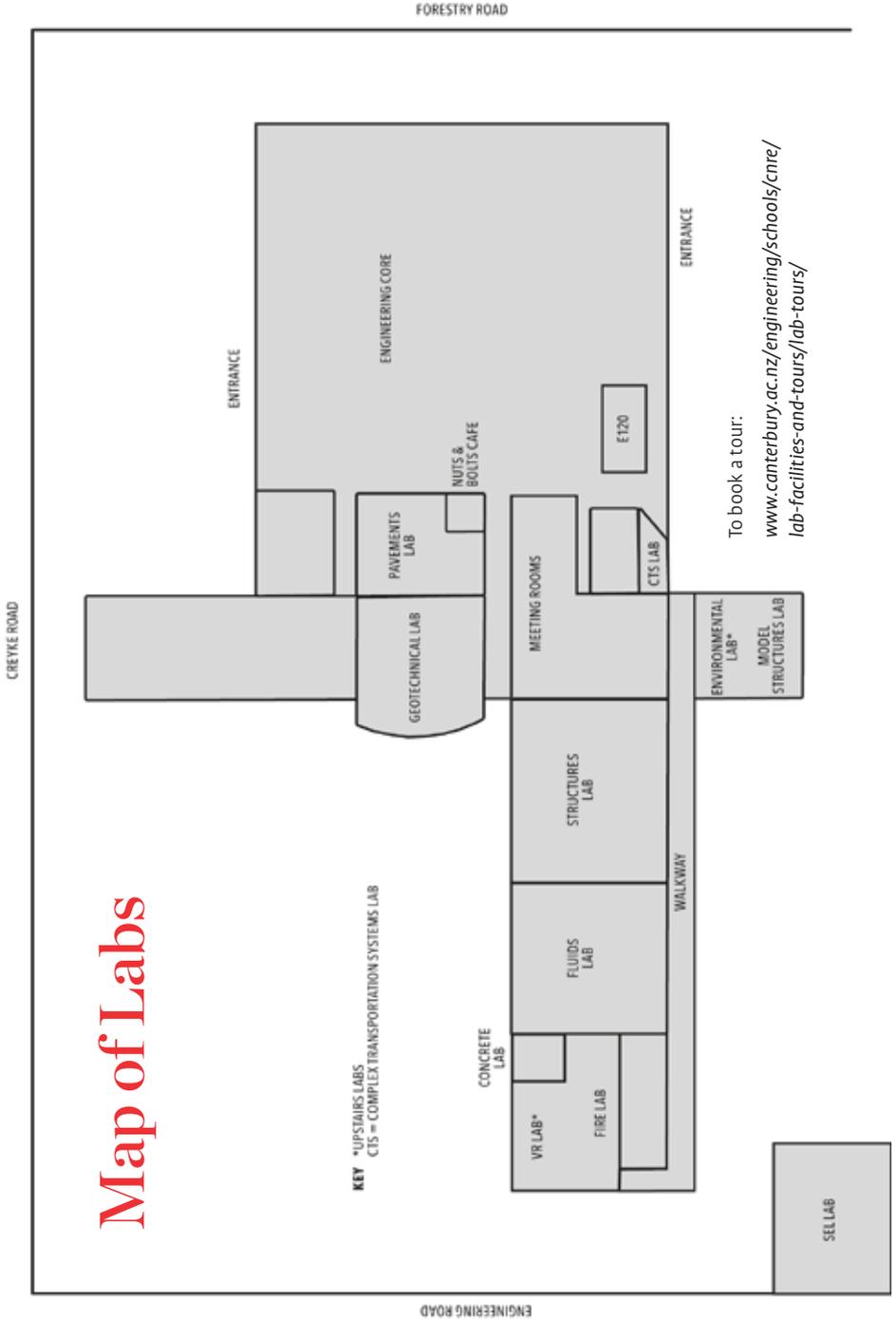
- Earthquake
- Environmental
- Fire
- Geotechnical
- Hydrology and Fluids
- Soil Mechanics
- Structural
- Systems
- Traffic and Pavement

‘Natural Resources Engineering is the most challenging and rewarding degree you can take if you care about improving the natural environment and habitat that supports our native New Zealand Species’.

Shanti Marriott-Johnstone
BEng(Hons)



Map of Labs



To book a tour:
www.canterbury.ac.nz/engineering/schools/cnre/lab-facilities-and-tours/lab-tours/

Our labs



Complex Transportation Systems Lab (CTS)

Here we monitor and analyse current transport systems to manage and optimise how traffic moves around the city.



Environmental Lab

Here we work with drinking water, wastewater, groundwater and solid wastes to develop new ways of processing and protecting our natural resources.



Concrete Lab

Here we study cost-effective eco-friendly sustainable concrete and performance based concrete materials.



Fire Lab

Here we study how fire behaves in differing circumstances, and get to experience the smell, smoke and heat of fire first hand



Geomechanics Lab

Here we classify and test soils to understand their engineering properties, helping engineers to analyse, predict, and design for the behaviour of soil deposits underlying the ground surface as part of civil infrastructure projects.



SEL Lab

Here we build large structures to test the strength, durability and composition of materials to protect against disasters such as earthquakes.



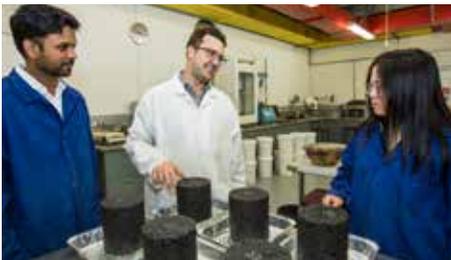
Fluids Lab

Here we study how fluid flows using our teaching flumes and network boards, and our piping network to learn about the effects of hydraulic transients (water hammer).



Structures Lab

Here we test how different structural systems and materials behave under pressure, such as windows in earthquakes.



Pavements Lab

Here we test different types of pavement, construction materials and design. There's equipment to test things like skid resistance, bitumen aging and compaction of asphalt.



VR Lab

Here we study how people react in emergency situations, such as fire, to build and plan more effective evacuation and defence systems.



Common questions and answers

Are the guides allowed to enrol me?

No, our guides are current students so you will need to talk to admin here, but you certainly can ask them about how they managed their way through the enrolment process. Some may have studied your specialisation so they will be able to give you more specific course advice, but your best point of contact is the Faculty of Engineering office at www.canterbury.ac.nz/engineering/contact-us/nz-enquiries/

How long is this degree?

We are a professional degree and it takes 4 years to complete this Bachelor of Civil Engineering Honours degree.

What subjects do I need from school?

You will need Maths, Physics and Chemistry at NCEA Level 3.

Is it one degree?

No, you have two separate degree options – One for Civil Engineering, and one for Natural Resources Engineering. (We are the only university in the world to offer Natural Resources Engineering).

How much can I earn when I complete my degree? (only on web)

According to the 2021 Engineering NZ Remunerations Survey you will on average earn a graduate salary of NZD\$67,000 with General Managers holding a bachelors degree earing an average NZD\$247,450

What will I be studying in my first year?

Every student does an intermediate year covering the same core subjects of: engineering academic skills, foundations of engineering, engineering

mechanics, waves, electromagnetism and thermal physics, engineering mathematics, introduction to programming, engineering mechanics, and, chemical principles and processes.

Then in their second-year students select a specialty area of engineering such structural engineering, fluid mechanics and hydrology, civil systems engineering, Environmental engineering, engineering management, ecological engineering, geotechnical engineering, fire engineering, and transportation.

What happens if I fail one of my courses?

Some courses are offered again in Summer School but we recommend students talk to the course supervisors as early as possible if they are finding aspects challenging.

What are the minimum Grade Averages required?

There are no minimum grade averages, your application will be assessed on your NCEA results. You should aim to have at least:

- 14 credits in Level 3 maths or calculus including both differentiation and integration
- 14 credits in Level 3 physics
- 14 credits in Level 3 chemistry.

How will these tours operate under the Covid-19 Protection Framework?

Although mask wearing is no longer compulsory under the Governments' Orange setting in most places on campus, our very strong public health advice is that all our staff and students are strongly encouraged to wear one wherever physical distancing is not possible. This includes in teaching and research settings, and in our libraries.

Masks are required to be worn at our campus retail outlets.

Are there vaccination requirements to join this tour?

There are no vaccination requirements for this tour.

Are there specific clothing or footwear requirements?

All tour attendees and staff must wear a face mask when entering the faculty building. The tours will also walk through active research and lab environments, so for your comfort and safety please wear closed-toed shoes.

Can I take photos during the tour?

Photography is allowed on site and during the tour. However, we ask that you request permission before taking photos of staff and students or their work.

Where do I meet the guide?

Met the guide at UC Engineering Core foyer, beside Room 120.

Who do I contact to book a tour

You can contact campustours@canterbury.ac.nz to book a tour of the 'Civil Engineering Labs'.

Parking

There's paid public and disability parking available outside Security, please purchase your permit from the Security Building on Ilam Road. This is the closest off-street carpark to our Labs.

How do I enrol

For further information on enrolling please contact: enrol@canterbury.ac.nz or visit www.canterbury.ac.nz/enrol/contact/#email



‘The research facilities and subject matters under research are truly at the forefront worldwide of changing Fire Engineering methodologies’.

Darin Millar

Principal/Business Development Director, Holmes Fire
BE Civil and MEFE

Come to our
open days



‘Once you sit down to your first engineering lecture you instantly feel “part” of something and that definitely motivates you to go the distance’.

William Borrie BEng(Hons)

Structural Engineer, Connor Consulting

Check us out:



www.canterbury.ac.nz/engineering/schools/cnre/

Sign up for our newsletter

civil-news@canterbury.ac.nz

Call us to chat further!

03: 369 3113

Be empowered to make a difference



Civil & Natural Resources Engineering
Pūhanga Metarahi me te Rawa Taiao