



UNIVERSITY OF
AUCKLAND
Waipapa Taumata Rau
NEW ZEALAND

Engineering

Undergraduate Prospectus 2024



No. 1
New Zealand
University*



No. 1
Global
Reputation**



No. 1
in New Zealand
for employability***

Ko Waipapa Taumata
nei, e karanga nei ki t
ki te kai i te mātaura

Nau mai, haere mai,
ki te whare whakairo

We are Waipapa Taumata Rau, we greet, we call to the many who desire the sustenance of knowledge.
Welcome, come forth and fasten to the carved meeting house, Tāne-nui-a-rangi.

Rau mātou, e mihi
te marea e hiahia ana
āngā

herea mai tōu waka
o Tāne-nui-a-rangi

Nau mai ki Te Herenga Mātai Pūkaha Welcome to the Faculty of Engineering

With innovative and creative abilities, engineers are vital in our increasingly complex technological world. At New Zealand's leading engineering faculty,¹ you will be surrounded by people who are excited to push boundaries, improve lives and learn from each other.

Our undergraduate degree has evolved a lot over the years, though we've never strayed away from its core purpose, ensuring that our graduates are primed to take on the future. Ten distinct specialisations are on offer – each of these will enable you to master the advanced technologies we have on site and offer insights into the designs of our future environments.

You'll also experience our new, state-of-the-art Engineering building. Located at the heart of Auckland city, our labs and facilities, spacious student areas and Multidisciplinary Learning Spaces are all built with you in mind.

Along with our exceptional academic staff and student support, we will provide you with the best possible foundations for success.

A degree in Engineering offers unparalleled opportunities to contribute to positive change, both locally and internationally.

Our graduates navigate global socio-economic challenges and technical complexities with creativity, empathy and passion – we hope to see you do the same.

On behalf of our faculty, I invite you to join our community of learning/whakauru mai ki tō mātou kāhui ako. Together, we can make a positive difference in our world.



PROFESSOR GERARD ROWE
Manukura Pūkaha | Dean of Engineering
Waipapa Taumata Rau | University of Auckland

¹ QS World University Rankings by Subject 2022

Cover attributions

*QS World University Rankings 2022

**QS World Rankings Academic and Employer Reputation 2022

***QS Graduate Employability Rankings 2022

Disclaimer: Although every reasonable effort is made to ensure accuracy, the information in this document is provided as a general guide only and is subject to alteration. All students enrolling at the University of Auckland must consult its official document, the current Calendar of the University of Auckland, to ensure that they are aware of and comply with all regulations, requirements and policies. Publication date: February 2023.

Our undergraduate programme

Bachelor of Engineering (Honours)

Full-time: 4 years

Points per degree: 480

Location: City Campus

Application closing date: 8 December 2023

Classes start: 26 February 2024 and 15 July 2024

The BE(Hons) degree at the University of Auckland is a four-year programme that can lead to Chartered Professional Engineer status after graduation and suitable work experience. It consists of 480 points, usually divided into four 120-point parts (each equivalent to one year of study).

Part I is the same for all first year students. You gain experience in each of our ten specialisations and study a broad base of engineering and professional fundamentals.

At the end of Part I, you will be invited to select the discipline in which you wish to specialise for the remainder of your degree. We offer ten specialisations. Each has a limited number of places, so admission into your preferred specialisation is based on your academic results in Part I.

Parts II, III and IV are customised over the following three years according to your area of specialisation. You will study a common core of mathematical modelling, technical communication and professional development, in addition to specialist subjects relevant to your chosen field. You will also have opportunities to choose elective courses, which allow you to further explore topics that interest you.

Throughout your degree, your courses will involve a mixture of lectures, tutorials, traditional assignments and exams, as well as laboratories, field trips, practical work, research projects and presentations.

Conjoint programmes

Full-time: 5 years, or 6 years with an LLB or BAdvSci(Hons), and 7 years with an LLB(Hons)

Points for BE(Hons): 420 points

Conjoint combinations: Advanced Science (Honours), Arts, Commerce, Design, Fine Arts, Global Studies, Law, Law (Honours), Music, Property and Science

Points for other degree: 465 points for LLB(Hons), 405 points for LLB, 375 points for BAdvSci(Hons), and 255 points for all other conjoints

Conjoint programmes enable you to complete a BE(Hons) and another degree more quickly than if you were to undertake them separately. They can be an excellent choice if you know that the other degree component will be beneficial in your proposed career, or if you are a capable student with skills in various areas.

The workload for a conjoint programme is higher than that of a single degree (usually 135 points per year, compared with 120 points per year for a single degree). The BE(Hons) programme alone is considered to have a high workload, so conjoint students must be prepared for an even greater challenge.

Conjoint programmes have higher entry requirements and may be subject to faculty approval. They can be structured in several ways and planning your timetable can be complex. Please contact your nearest Student Hub if you need extra help.

Before you apply, see auckland.ac.nz/conjoints

Sample BE(Hons) degree structure

Part I	CHEMMAT 121 Materials Science	ELECTENG 101 Electrical and Digital Systems	ENGGEN 115 Principles of Engineering Design	ENGGEN 121 Engineering Mechanics	ENGGEN 131 Introduction to Engineering Computation and Software Development	ENGGEN 140 Energy and Society	ENGSCI 111 Mathematical Modelling 1	General Education	ENGGEN 199 English Language Competency
Part II	ENGGEN 204 Professional Skills and Communication	ENGSCI 211 Mathematical Modelling 2	Specialisation course	Specialisation course	Specialisation course	Specialisation course	Specialisation course	Specialisation course	ENGGEN 299 Workshop Practice
Part III	ENGGEN 303 Managing Projects and Innovation	ENGSCI 311 Mathematical Modelling 3	Specialisation course	Specialisation course	Specialisation course	Specialisation course	Specialisation course	Elective	ENGGEN 499 Practical Work
Part IV	ENGGEN 403 Managing a Business	Specialisation course	Research Project		Elective	Elective	Elective	Elective	

■ Common core courses
 ■ Specialisation courses
 ■ Elective courses
 ■ General Education courses
 ■ Part IV research project
 ■ Compulsory degree components

All successful applicants will gain entry into the BE(Hons) programme. The BE(Hons) degree is awarded to those students who achieve a sufficiently high Grade Point Average (GPA) in Parts II, III and IV. Students who successfully complete the programme, but do not achieve a sufficiently high GPA to be awarded the Honours degree, will be awarded the BE degree.

Practical work

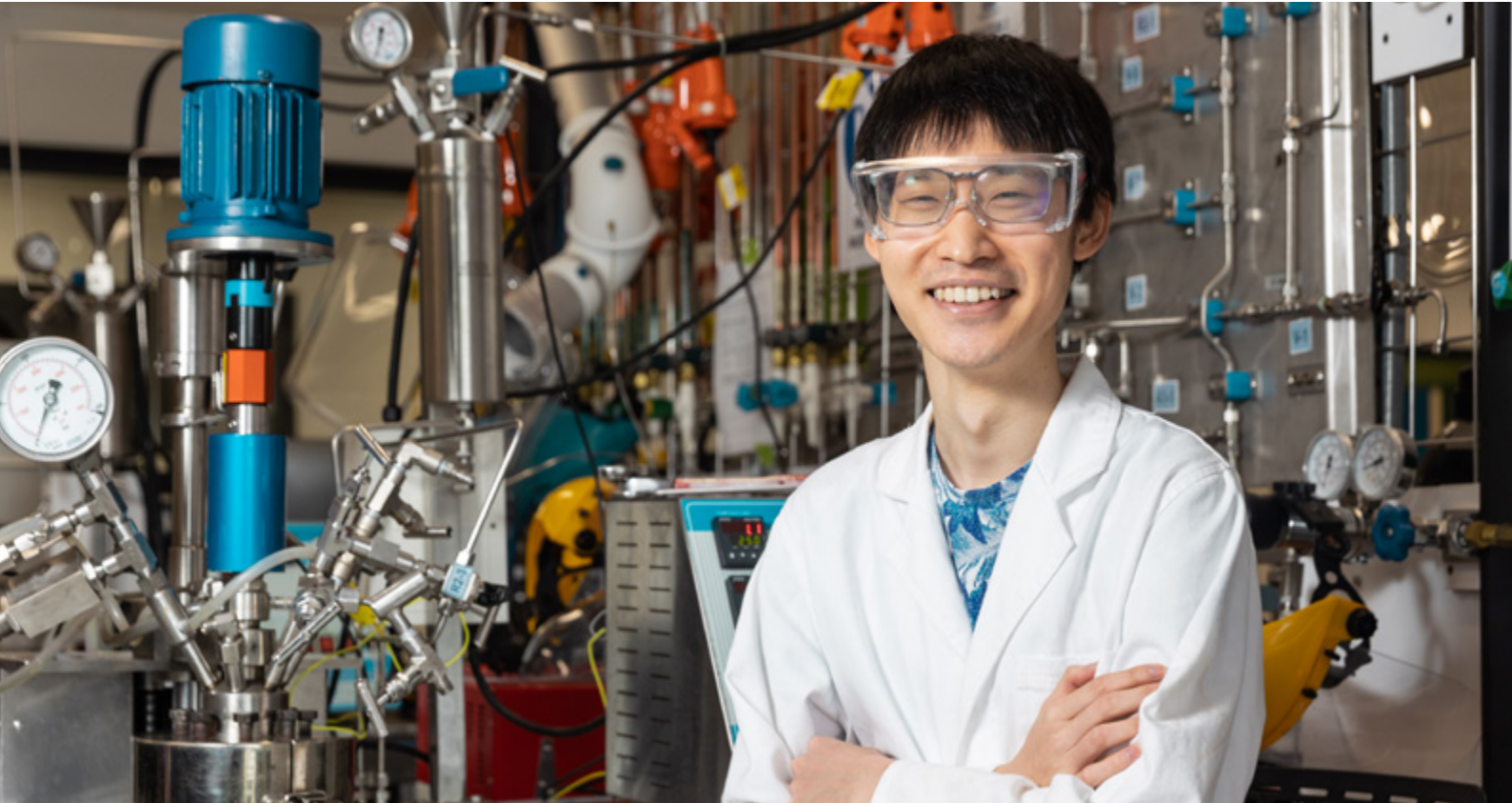
There are two compulsory practical work requirements of the BE(Hons) degree. In Part II, you will need to complete a 40-hour workshop practice course. You are also required to gain at least 800 hours of practical work experience throughout your degree. This will involve exposure to general trade and sub-professional skills relevant to your engineering specialisation, ensuring you are ready for the workforce by the time you graduate.

General Education

General Education courses are a distinctive feature of the University of Auckland's bachelor degrees. They are designed to broaden your education and give you a chance to try a course outside your degree. As a BE(Hons) student, you must pass one General Education course (15 points) in Part I. Special arrangements may apply if you transfer from another tertiary institution with credit.

For more information visit auckland.ac.nz/generaleducation.

Our engineering specialisations



Pūhanga Koiora Rongoā Biomedical Engineering

Biomedical engineers combine engineering, medicine and biology to resolve challenges in the healthcare industry. They respond to problems and design medical solutions for more effective treatment and quicker recovery. It is a rapidly diversifying field. As the role of technology in healthcare becomes more prominent, biomedical engineers find themselves at the forefront of real-world, life-changing progress.

Career opportunities

Biomedical engineers often gain employment in biomedical companies, research facilities, hospitals and government regulatory agencies. They design medical devices, prostheses and implants, develop drugs, drug delivery systems, improve sports and injury assessment, and work in medical IT. As some of the most versatile professionals in the field, biomedical engineers can also be found in fields like software development, electronics, consulting, financial modelling and the food, meat and wool industries.

→ **Find out more:** des.auckland.ac.nz

Biomedical Engineering and Engineering Science Student Association (BESA)

BESA provides academic support and networking opportunities for students in their respective specialisations. This is achieved through various social, academic and career-focused events.

The BESA will provide a foundation for a tight-knit cohort and foster an interest in how Engineering Scientists and Biomedical Engineers can utilise their unique skill-set to revolutionise our society and the wider world.

→ **Find out more:** facebook.com/besauoa

Pūhanga Matū

Chemical and Materials Engineering

Do you wonder how products like petrol, plastic bottles and synthetic polyester are produced from oil? Or are you interested in developing new, sustainable replacements for everyday items? Chemical and Materials Engineering involves understanding how to chemically or physically alter a substrate in order to produce something useful. As big picture professionals, these engineers are often responsible for the overall design, operation and quality of giant-scale processes.

Career opportunities

Major industries employing chemical and materials engineers include dairy and food, pharmaceuticals, paper and pulp, petrochemicals, energy processing and production, construction and cement, timber, water treatment, resource development and management, electronics, and mineral processing industries such as aluminium and steel production. As sustainable practices become increasingly critical, chemical and materials engineers will also be required to re-evaluate and re-design many of the fundamental products and processes that these industries are built on.

➔ **Find out more:** ecm.auckland.ac.nz



***“My Part IV project was definitely the highlight of my degree. After two years of learning specialised theories and developing the engineering mindset, it was rewarding to see it all come together in a very practical manner. The satisfaction of observing patterns in the data and calculating results with equations learnt in the classroom is an amazing feeling and one I will never forget.*”**

“When I attended the open day on campus, I listened to Professors explaining how their work and studies were changing lives. They were creating artificial hip joints or making sure clean water was accessible to people. This inspired me to pursue an engineering degree and gain the skills and knowledge required to make a positive change in the world.”

“What I enjoy most about university life is meeting new people and making life-long friendships. There are also so many clubs and organisations on campus where you can meet people who share similar views and interests.”

“I chose the University of Auckland because the Engineering degree is highly ranked on the global scale and each specialisation is known to have a high-quality of teaching. In addition to this, the University of Auckland offers the option to do a conjoint degree between Engineering and Music. This allows me to pursue my passions while challenging the creative and analytical parts of my brain.”

Jackson Ren

Student: Bachelor of Engineering (Honours) in Chemical and Materials Engineering and Bachelor of Music conjoint

“The amount of support the Faculty of Engineering provides is amazing, and the Civil Engineering courses are interactive and fun.

“I knew about the University of Auckland in my final year of high school. UoA had an outreach team that visited my school. The selling point for me was the University ranking and the support provided for the Pacific community within the University. I wanted to be at a university that was going to be a home-away-from-home for me as living away from home was something I wasn’t looking forward to.

“One of my favourite groups is SPIES, the South Pacific and Indigenous Engineering Students program. It is a lot of fun. Not only are we given support through SPIES, we also provide support for other, younger students.

“SPIES also has outreach programmes where we go out to the less privileged schools and promote engineering. This was fun because we were able to promote STEM education in these schools and let kids know about engineering. I tutor for the Pacific Academy and Study Fono which is run by the University of Auckland. Helping others succeed, especially kids that are of Pacific and Māori descent, gives me joy.

“After I graduate I intend to do further research, then go back to Tonga and give back to my country as a Civil Engineer.”

Mele ‘Ofa-Ki-Vila Mafi

**Villages of Mailetaha Kolofu’ou and Longolongo Kolomotu’a in Tongatapu
Student: Bachelor of Engineering (Honours)
in Civil Engineering**

Pūhanga Metarahi Civil Engineering

Civil engineers work in one of the oldest engineering disciplines and they make modern life possible. They work on the planning, design, construction and maintenance of infrastructure, such as motorways, bridges, tunnels and dams. The breadth of civil engineering means that you will explore topics that include transportation, geotechnical, structural and hydraulic engineering, as well as construction and project management. There are also growing connections between the civil and environmental engineering disciplines, as engineers develop solutions to help our planet.

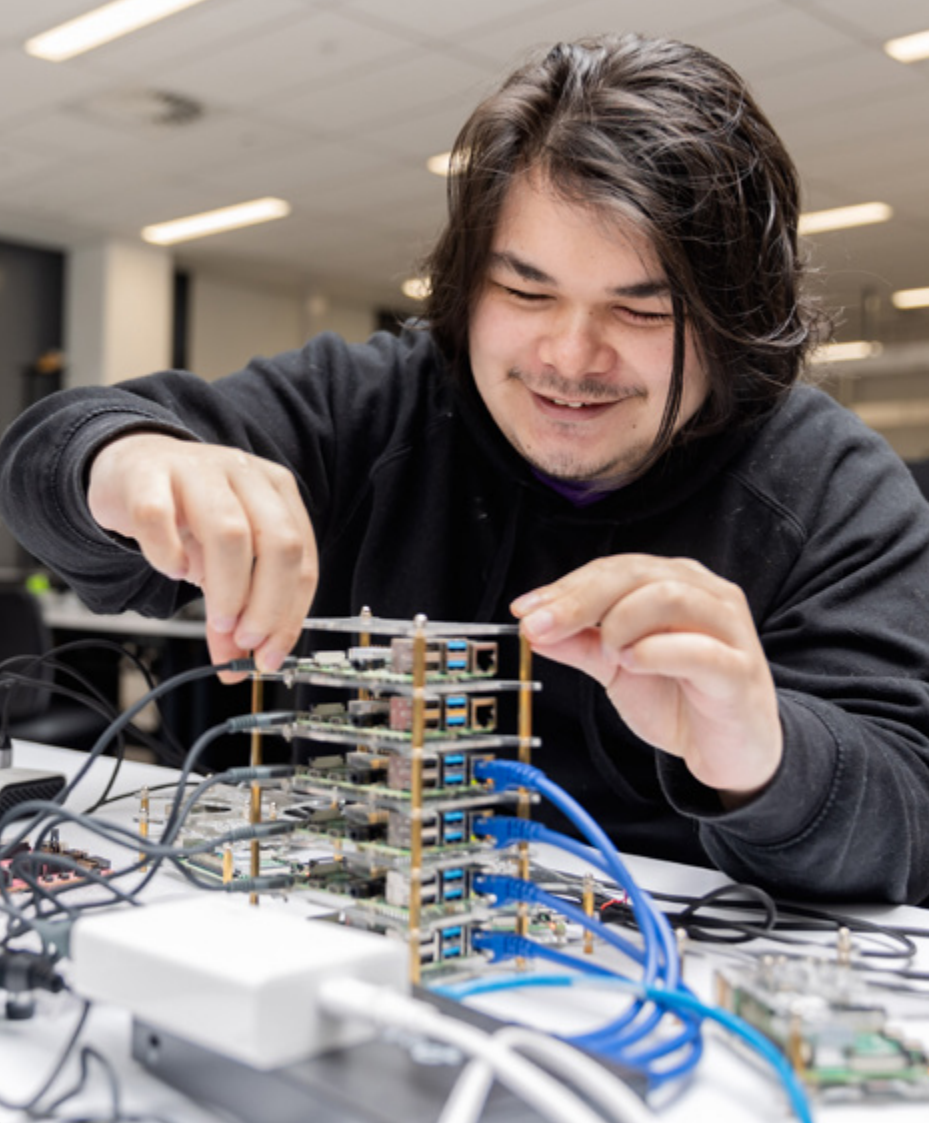
Career opportunities

The demand for civil and environmental engineers will soon exceed supply as cities continue to grow, ageing infrastructure needs replacing, and the need to repair the environment from human influences becomes critical. You will find opportunities in state-owned enterprises, in regional and district councils and in the private sector. A number of our graduates work in the top echelons of business organisations around the world.

We have the highest ranking of Civil and Structural Engineering in New Zealand, ranked 40th in the world according to the QS World University Rankings by Subject 2022.

➔ **Find out more:** cee.auckland.ac.nz





Pūnaha Rorohiko Computer Systems Engineering

Computer Systems Engineering is needed in almost every industry across the world. It constitutes the core of the controllers and components of wireless communication systems, home automation systems, appliances, automobiles, factory processes, mechatronics, instrumentation, embedded systems and nano-systems. Computer Systems Engineering is a crucial discipline that pushes us to solve practical engineering problems with computer-based approaches, often by embedding a computer system that can sense, problem-solve and act in the real world.

Career opportunities

As innovative design and product development continue at pace, so does the demand for qualified engineers. As a graduate you will find opportunities in multinational computer companies, consultancy firms, the telecommunications industry, and in the research and development teams of companies in a multitude of sectors. You might even continue your Part IV research project, develop a new technology and form your own start-up company.

➔ **Find out more:** ecse.auckland.ac.nz

***“At the end of first year I liked the electrical, coding and maths side of Engineering. That is why I picked Computer Systems Engineering, it allowed me to integrate all of these aspects into one degree.*”**

“The university of Auckland offered many experiences when leaving high school like the Genesis program for engineering, which works towards energy sustainability, and Whakapiki aki, which promotes health as a career in secondary education and kura. These allowed me to explore my options and welcomed me into a learning environment where I knew I would have guidance and help if needed.”

“I enjoyed getting involved more within the faculty and helping out, as well as getting to know the students and the lecturers around the campus.”

“What I like best about Computer Systems Engineering is the maths involved. The content which we learn in classes is also super neat and interesting which I enjoy.”

“I love that there are multiple pathways available in Engineering. You can combine any or all of hardware, software or electrical papers.”

Jeremy Tso

Ngāti Mutunga

**Student: Bachelor of Engineering (Honours)
in Computer Systems Engineering**



IEEE student branch

The Institute of Electrical and Electronics Engineers (IEEE) is an organisation of technical professionals in the areas of electrical engineering, electronics and computing.

IEEE is the world's largest technical professional organisation dedicated to advancing technology for the benefit of humanity. They host numerous events throughout the year, designed to help students reach their personal and professional development goals.

➔ **Find out more:** facebook.com/UOAIEEEESB

Pūhanga Hiko me te Tāhiko Electrical and Electronic Engineering

Modern society is highly dependent on reliable power, communications and electronic systems. Electrical and Electronic Engineers design the equipment and systems that provide these essential services. This discipline encompasses a range of exciting and diverse fields, from heavy electrical power generation, to sophisticated medical electronics, computer modelling, electromagnetics, information technology and the global telecommunications network.

We will have Electrical and Electronic Engineers to thank when new forms of green electricity are developed and electric vehicles replace our fossil-fuel-powered fleet.

Career opportunities

Electrical and Electronic Engineering changes so rapidly that it may be difficult to envision the types of technology you will be working on by the time you graduate – they may not even be invented yet! Today our graduates are employed in roles relating to communications, wireless computing technologies, electronics, instrumentation, power electronics and motor-control. Opportunities also exist in processing industries such as timber, pulp and paper, steel and aluminium. Engineers can also be found in fields like software development, electronics, consulting, financial modelling and the food, meat and wool industries.

➔ **Find out more:** ecse.auckland.ac.nz

Pūtaiao Pūhanga

Engineering Science

Engineering scientists are problem solvers committed to the *science of better*. They use their intellect and advanced mathematical skills to design ways to optimise and improve systems. How can a forest be managed to make a profit while still remaining environmentally friendly? How can a sail be designed to work in low wind conditions? What prices should be charged for airline tickets to maximise the revenue from a given flight? These are the kind of questions engineering scientists are tasked with solving.

Career opportunities

The diverse range of options available throughout your degree will directly contribute to your professional versatility. You might end up developing software, modelling production processes for a large manufacturer, or perhaps take up a management position with a bank. Our graduates can be found in leading New Zealand companies like Fonterra, Air New Zealand and Meridian Energy. In government organisations including NIWA and Transpower, and consultancy firms like Beca and Maunsell.

➔ **Find out more:** des.auckland.ac.nz

“One of my biggest highlights was the second year Engineering Science / Biomedical Engineering field trip to Taupō. We had opportunities to hear from companies and leaders in the industry, and we were taken onsite to Mercury Energy, and Fisher and Paykel.

“In high school I loved problem solving. Engineering is all about innovation and creating solutions for problems that can benefit communities and improve outcomes for our society as a whole. This resonated deeply with me.

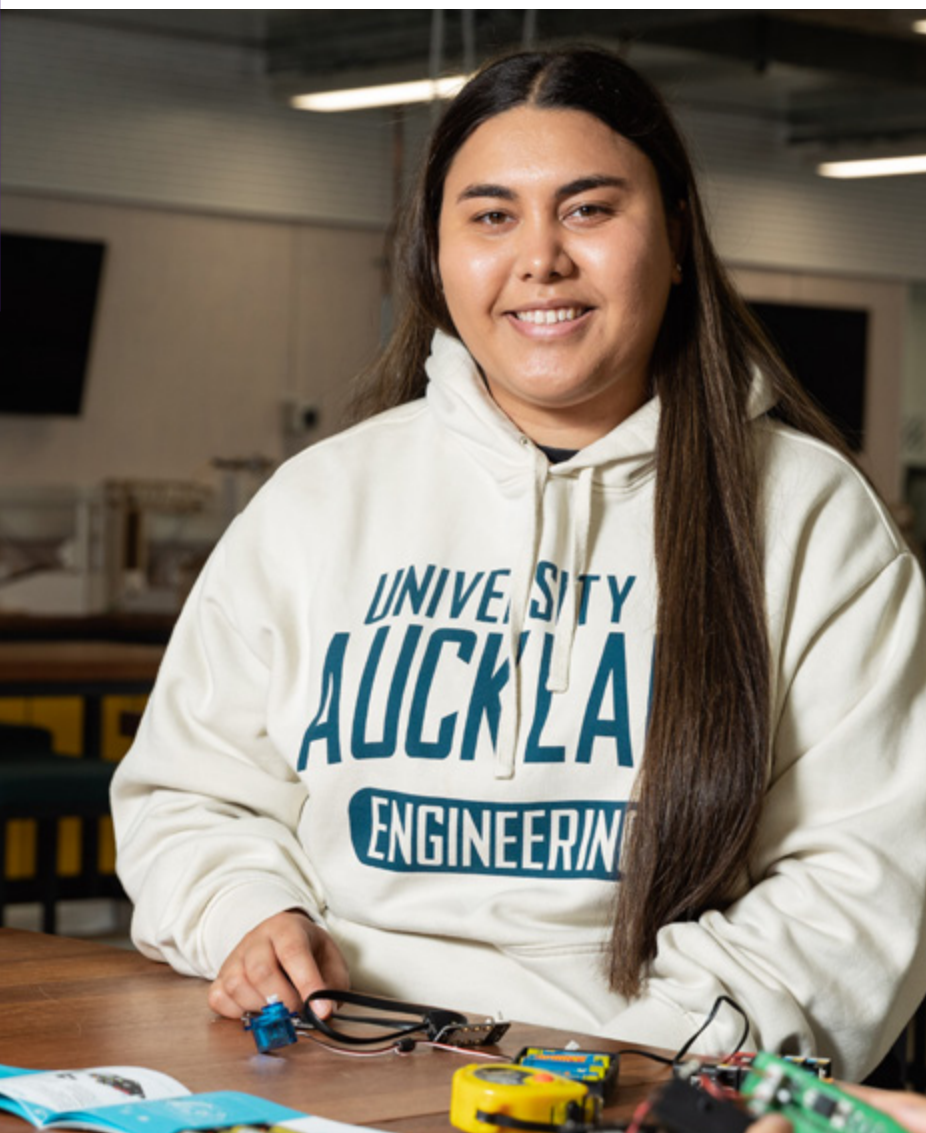
“I decided to specialise in Engineering Science because it allowed me to make the programme my own. With elective courses you can tailor the courses to your interests, while still learning fundamental skills transferable to a range of areas.

“Coming from Palmerston North I was excited about the unique opportunities that Auckland could bring. By enrolling in the University of Auckland, I knew that I would be receiving some of the best education in the country, while living in a supportive environment in residence.

“Another highlight for me was the Dean’s Leadership Programme, a leadership program for Part II/III students. It taught me valuable skills from experienced leaders that I will remember for life.”

Grace Little

**Ngāti Kahungunu, Rongomaiwahine and Nukunonu, Tokelau
Student: Bachelor of Engineering (Honours) in Engineering Science**



Formula SAE

Formula SAE combines the engineering knowledge gained in class with a passion for motorsports and design brilliance.

A year-long campaign comprises students designing and constructing a small formula style racecar.

Formula SAE Australasia is not just a race. It is an engineering competition where students' imaginations, creativity, skills and knowledge are tested.

The team competes annually in the FSAE-Australasia competition, which attracts entrants from across Asia-Pacific, Europe and America. They have also competed in the prestigious Formula Student Germany competition.

The University of Auckland Formula SAE Team is New Zealand's oldest Formula SAE Team and was **1st Overall at the 2022 Formula SAE Australasia Competition**.

→ **Find out more:** facebook.com/fsae.co.nz



Pūhanga Pūrere Mechanical Engineering

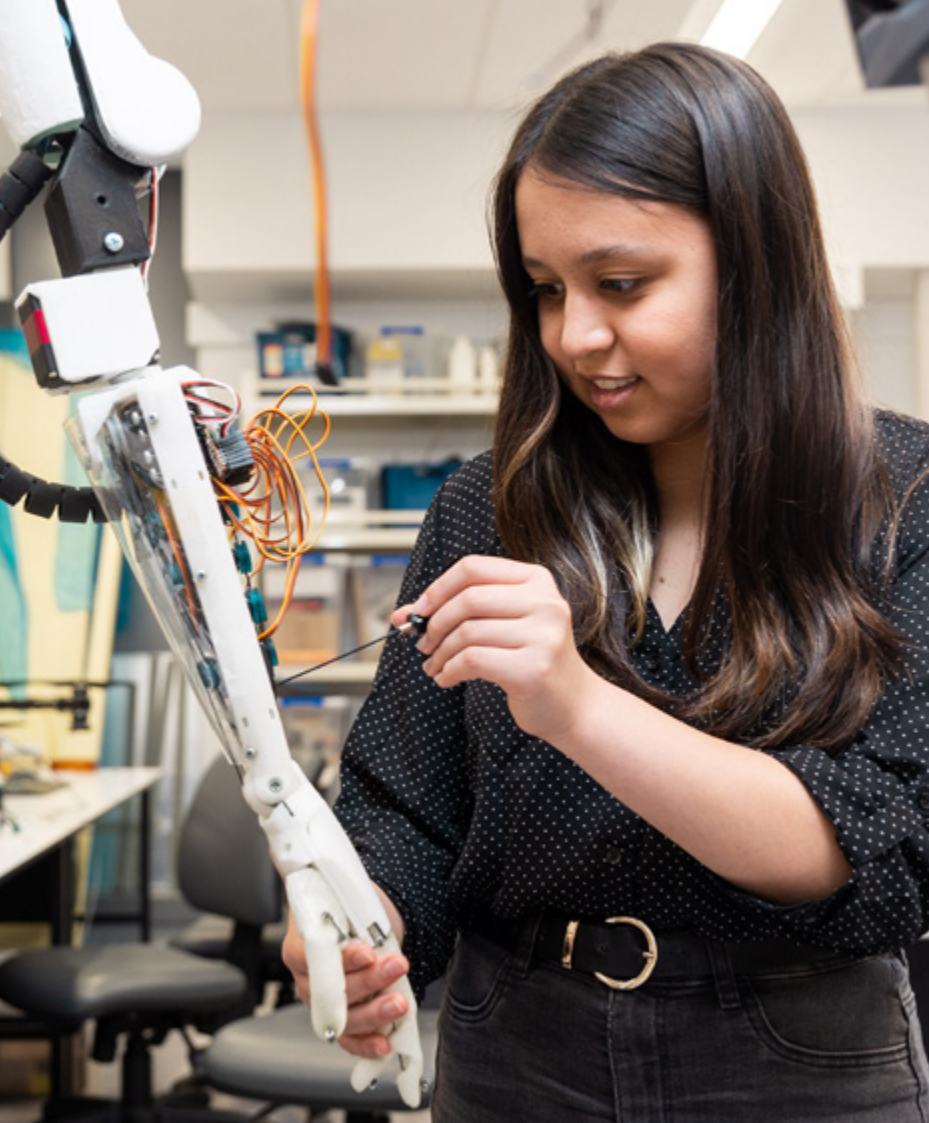
Mechanical Engineers design and produce devices like robots, wind turbines and rockets. Their work ranges from the small to the big: from nanotechnologies to the large-scale industrial machinery in paper mills and car assembly plants. Mechanical Engineers also deal with thermodynamics and fluid dynamics, and they understand how to use energy efficiently in processes. Amongst other projects, they use these skills to design heating systems for hospitals, cooling ones for refrigeration plants, and to make sure aircraft and yachts move efficiently.

Career opportunities

As a graduate you might pursue opportunities in the manufacturing or transport industries, or in large-scale plants that produce wood pulp, dairy products, meat, steel, petroleum or electricity.

Many of our graduates enjoy the variety involved in consultative engineering, where they are commissioned by companies to plan, design and implement a range of projects. These are often restricted by challenging and industry-specific parameters.

→ **Find out more:** mech.auckland.ac.nz



Pūhanga Pūrere Tāhiko Mechatronics Engineering

Mechatronics engineers use specialist knowledge in mechanics, electronics and computer systems to design and develop automated systems. These can include technologies like chassis-stabilising systems, anti-lock brakes, engine control units, disk drives, service and surgical robots, cameras and medical devices. These systems are all largely mechanical in nature, but could not function without their electronic and computer control system components. As 'jacks of all trades', mechatronics engineers are often generalists rather than specialists, with a versatility that is highly valued in the workforce.

Career opportunities

This specialisation aligns with the modern world's desire for a high-tech, knowledge-based economy. As society moves toward 'smart homes', cities and grids, mechatronics engineers will be in high demand.

Our graduates can be found in a wide range of jobs that involve the design and improvement of high-tech products, such as home appliances, medical devices, machine tools and processes related to precision agriculture and remote sensing.

***“Engineering was always the right choice for me, even if it wasn’t glaringly obvious at the time. When I discovered engineering was all about design, creation and solving problems, it wasn’t a hard decision. The beauty of Mechatronics Engineering lies in its multidisciplinary nature – it’s more than just robots! With fundamentals in multiple disciplines, what you create is up to your imagination.*”**

“One of the misunderstandings I held in high school about engineering was thinking it was just maths and physics. I’ve never been happier to be proven wrong – it’s so much more than that! Engineering is a whole world of problem solving, creativity and innovation just waiting for keen minds to tackle.”

“A lot of my university highlights can be attributed to various clubs, committees, projects and extra-curriculars I’ve been part of. Particularly, the Auckland Programme for Space Systems — I didn’t think I’d get to work on satellites and rockets during my time in university! Another would be the Warman Design and Build Competition: building a robot from scratch using design, manufacturing, innovation and programming skills.”

“I also discovered the tight-knit community of Women in Engineering, WEN, something I wanted to be part of.”

Sarina Todd

Student: **Bachelor of Engineering (Honours) in Mechatronics Engineering**

➔ **Find out more:** mech.auckland.ac.nz

Pūhanga Pūmanawa Software Engineering

Software Engineering is behind many of the things we now take for granted – internet banking, online shopping and mobile payments. It is the apps on your smart phone, the games on your computer and the cloud storage you depend on to back up your devices. This area of engineering is being propelled by widespread demand for faultless software support. The creative possibilities can stretch as far as your imagination!

Career opportunities

Software engineers are emerging as the newest generation of IT workforce leaders. Especially as government agencies, businesses and individuals are relying more on cloud-based solutions. As a graduate, you could end up in virtually any company and manage their information storage and sharing technologies. You might choose to join a dedicated software consultancy firm, or work your way up to management. Or you might extend your Part IV project into postgraduate research, and use that to kick-start your very own start-up company.

➔ **Find out more:** ecse.auckland.ac.nz

***“I picked Software Engineering as I really enjoy being creative. There is not just one solution to a problem, you get to decide how you design your programs. I also really like the variety of career pathways the degree can lead you to. You can be technical or more people oriented. You can be a leader and you can be part of a team.*”**

“I chose the University of Auckland because it is one of the biggest universities in New Zealand and the Engineering faculty is well respected.

“I picked engineering as the unique combination of creative design and technical knowledge truly appealed to me. I love problem solving and I wanted to apply such skills to make a positive impact and solve real world problems.

“My biggest highlights of University revolve around club activities and being part of executive teams. It’s incredibly fulfilling to work in a team, seeing all your hard work coming into play and helping other students. The most exciting events I’ve organised this year would be Project Wellbeing’s Success, Failure and Everything in Between and Chiasma’s Synapse.

“I love that it is impossible to get bored. There are so many opportunities, more than just going to class, that you can do.”

Kyla Lee

**Student: Bachelor of Engineering
(Honours) in Software Engineering**





Pūhanga Rangaranga Structural Engineering

Structural engineers are essential to our built environments, with their understanding of geotechnical site conditions, ground response to seismic action, materials for construction, and loading conditions. They work on the design, analysis, construction and maintenance of the structural elements in domestic, industrial and commercial buildings, including skyscrapers, bridges and other infrastructure. Their specific technical knowledge enables them to build for environments prone to seismic activity.

A major benefit of this specialisation is the direct link between your study and employment. Structural engineers are in very high demand, and opportunities are available to skilled professionals both in Aotearoa and overseas.

As many parts of the world are increasingly susceptible to natural disasters, the structural engineering profession is especially important to the safety of our people and communities.

You'll also be learning from exceptional academics, many of whom are well-established researchers in the field. Their expertise contributes to our reputation as the country's top tertiary institute for Civil and Structural Engineering, ranking within the top 50 in the world according to the QS World University Rankings by Subject 2022.

➔ **Find out more:** cee.auckland.ac.nz

***“I love that the UoA Engineering programme is very hands-on, with laboratory sessions that enrich our understanding of what we learn in lectures. We had one lab session this year where each group had to design and build a small beam. It was really exciting to have this opportunity to implement what we had learned in lectures.*”**

“I chose Structural Engineering because I'm really interested in the design aspect of buildings. I am also interested in learning more about creating sustainable structural designs that will continue to benefit future generations.”

“My favourite part of uni life is the social aspect. I've found that the Engineering faculty has a very strong sense of community – there are lots of opportunities to socialise outside of classes with many clubs that cater to different interests.”

“I've really enjoyed the CESA, Civil Engineering Students' Association, events this year – some highlights were the Social Mixer at Shadows Bar, and the Industry Mentoring programme, which helped me get a summer internship!”

“After I graduate it would be interesting to look at what opportunities there are to integrate what I learn in my conjoint degree, Computer Science, with Structural Engineering.”

Anna Millar

Student: Bachelor of Engineering (Honours) in Structural Engineering and Bachelor in Computer Science conjoint

Enabling your success

Our dedicated support services complement our culture of academic excellence. These services help create an environment in which our engineers feel welcome and inspired.

Modern learning environments

Our newest Engineering building is located at the heart of Auckland City, on our University's City Campus. It has tailor-made spaces, including over 50 specialist research laboratories across 11 floors to encourage multi-disciplinary teaching and learning.

International recognition

Nine of our engineering specialisations are accredited by Engineering New Zealand, a regulatory professional body and signatory to the Washington Accord. An Engineering New Zealand accreditation makes your degree a recognised qualification in many countries.

Combine your degrees

You can complete an Engineering degree alongside another specialist qualification from another faculty by pursuing a conjoint degree.

Innovation and entrepreneurship

We are ranked as the most innovative university in New Zealand*, and we are committed to building a culture of innovation and entrepreneurship, with high levels of connectivity between researchers and businesses. Outside of study, Engineering students have found success in initiatives such as Velocity, our University's entrepreneurial programme, and the Auckland Programme for Space Systems, a satellite mission programme open to undergraduate students. It is a part of our faculty's mission to enrich Aotearoa New Zealand's space industry.

Women in Engineering

We have one of the highest participation rates of women in tertiary-level engineering across New Zealand and Australia, over 29%. We strive to diversify, inspire and empower women to achieve their aspirations in engineering.

Practical experience

You'll gain relevant experience in the workplace alongside industry professionals, as you carry out the 800 hours' practical work required over the course of your degree.

Strong career and employment outcomes

The University of Auckland has a QS 5 Star PLUS rating for excellence in eight categories, including employability. We are the leading university in New Zealand for graduate employability.**

Research excellence

We have the most top-rated researchers, and the highest level of research income of any university in New Zealand, equipping us with the best knowledge our country can offer. You'll have access to well-established facilities such as the renowned Auckland Bioengineering Institute, QuakeCoRE, Civil Structures Testing Lab, the Boundary Layer Wind Tunnel, Centre for Automation & Robotic Engineering Science and more. This opens up opportunities, especially if you're already thinking ahead to a future in research or postgraduate study.

Competitive admission

We have a guaranteed entry scheme for high-performing secondary school students, so you'll be studying alongside the best. Limited places are also available under our Targeted Admission Schemes for eligible students.

Unique specialisations

We are the only university in New Zealand to offer undergraduate specialisations in Engineering Science, Biomedical Engineering, and the combination of Chemical and Materials Engineering.

* Times Higher Education Impact Rankings 2022

** QS Graduate Employability Rankings 2022



➔ **Find out more:**
engineering.auckland.ac.nz

Student life

University is both a challenging and exciting experience. The Faculty of Engineering is dedicated to providing you with strong academic support. We host a variety of events throughout the year, and we have many student groups, clubs and associations. There are lots of opportunities for you to get involved.

Part I Assistance Centre

First-year students can receive weekly academic assistance from high-achieving student guides during Semesters One and Two. These mentors are trained and supported by our course coordinators throughout the semester.

In-house support

The Student Engagement and Development team supports you academically, personally and professionally. They are there from Orientation through to employment, providing academic help and links to key support services. These include health and counselling, Career Development and Employability Services and academic help.

foe-engagement@auckland.ac.nz

Tuākana Tutorial Programme

The Faculty of Engineering employs high-achieving Part II and Part III students to provide targeted tutorials in all core Part I Engineering courses. Academic support programmes are also provided for Māori and Pacific Engineering students.

Clubs and associations

We ensure that you have the spaces and opportunities to make new friends and enjoy the vibrant culture of student life.

You may choose to join specific groups, such as the Women in Engineering Network (WEN), the South Pacific Indigenous Engineering Students Network (SPIES) and the Rainbow Engineering Network. There are also lots of clubs for varying areas of interest, including the Engineering Revue, the University of Auckland Formula SAE Team and Engineers Without Borders.

International students

We welcome applications from international students. If you seek admission to Part I of the BE(Hons) and have New Zealand secondary school qualifications, you will require the same guaranteed entry score as domestic students. If you apply for admission based on an overseas secondary school qualification you must meet admission, programme and undergraduate English language requirements.

auckland.ac.nz/prioroverseasschoolstudy

Scholarships

More than 40 Engineering undergraduate scholarships ranging from \$1,000 to \$7,500 have been graciously established by individuals, societies, businesses and industry bodies.

A full list of undergraduate scholarships and awards is available online.

engineering.auckland.ac.nz/scholarships

Student Hubs

The Student Hubs are your physical gateway to Waipapa Taumata Rau, providing welcoming and friendly support to help you navigate potential study options, groups & clubs, university services and more.

Our specialised hub staff are available seven days a week, across all our campuses in Auckland, to answer any questions you may have about your study options and the application process.

Once you are enrolled and part of the University whānau, the Student Hubs will be your access point for general information, mana-enhancing learning support, and programme and course advice, as you progress through your studies and prepare for your exciting next step.

auckland.ac.nz/student-hubs



Over 200 student clubs available on campus



Find out more:

auckland.ac.nz/campuslife

Joining us

University Entrance Standard

To apply for admission based on secondary school qualifications, you need to meet the University Entrance Standard established by Te Pōkai Tara Universities New Zealand.

auckland.ac.nz/entry-requirements

Programme requirements

As well as achieving University Entrance, you must also meet entry requirements for the BE(Hons) programme.

Guaranteed entry requirements			
Programme	NCEA (Level 3)	CIE	IB
Bachelor of Engineering (Honours)	260 with 17 external Level 3 credits in Calculus and 16 external Level 3 credits in Physics	310 with Mathematics and Physics at A levels*	33 with Mathematics and Physics at HL level*
Bachelor of Engineering (Honours) conjoins	275 with 17 external Level 3 credits in Calculus and 16 external Level 3 credits in Physics	330 with Mathematics and Physics at A levels*	36 with Mathematics and Physics at HL level*

*The following may be accepted based on grade achieved: AS Mathematics and Physics for CIE students, and SL Physics and SL Mathematics: Analysis and Approaches for IB students.

Calculating your rank score

National Certificate of Educational Achievement (NCEA) Level 3

Your rank score is based on your best 80 credits at Level 3 over a maximum of five approved subjects. These credits are then weighted according to the level of achievement in each set of credits: Excellence (4 points), Merit (3 points) or Achieved (2 points).

A maximum of 24 credits are counted for each approved subject. The maximum rank score is 320. If you achieve fewer than 80 credits, the rank score will be based on your total Level 3 credits gained over a maximum of five approved subjects and weighted by the level of achievement.

Credits obtained in required subjects do not have to be among the best 80 credits used to calculate the rank score. NCEA Level 3 credits achieved before Year 13 can count towards the 80 best credits used for ranking.

Those who completed Year 13 Calculus and Physics but did not meet the rank score may still be considered.

University of Cambridge International Examinations (CIE)

Your rank score is based on the UCAS Tariff score for up to six subject units at AS level (one subject unit) or A level (two subject units). A maximum of two subject units can be included from any one syllabus group in the table of available syllabus groups, which are broadly equivalent to those in the list of approved subjects for NCEA. If you have completed more than six subject units, the best six scores will be used. Thinking Skills and the General Paper will be excluded from the rank score calculation. The maximum rank score is 420. The following points are awarded for each syllabus group.

International Baccalaureate (IB)

Level	A*	A	B	C	D	E
A	140 points	120 points	100 points	80 points	60 points	40 points
AS	-	60 points	50 points	40 points	30 points	20 points

Your rank score is the same as your IB score. For example, if you achieve 27 points for IB, your rank score will be 27 points. The maximum rank score is 45.

Prior tertiary study

To transfer from another tertiary institution you must meet admissions, programme and English language requirements.

auckland.ac.nz/priortertiarystudy

Academic English Language Requirement (AELR)

The AELR aims to ensure you have a sufficient level of competence in academic English to support your study at University. It will not affect whether you are offered a place on a programme, and may be met through your entry qualification or satisfactory completion of an approved course in your first year of study.

auckland.ac.nz/aelr

Alternative pathways into Engineering

If you do not have the appropriate secondary school qualification, subjects and/or rank score, there are a number of alternative pathways for gaining admission.

engineering.auckland.ac.nz/entry-pathways

Targeted Admission Schemes

The Faculty of Engineering is committed to equity and offers admission schemes for eligible Māori and Pacific students, students with disabilities, students from refugee backgrounds and students from low socio-economic backgrounds. Places are limited. Applicants must have met the University Entry Standard and studied Physics and Mathematics (including Calculus).

Māori and Pacific Targeted Entry Scheme (MAPTES)

All eligible Māori and Pacific students may apply under MAPTES. Places will be allocated according to academic performance. We recommend that you apply for MAPTES even if you don't think you will have the grades to get in. Entry via MAPTES gives you access to Tuākana, our academic and mentoring support programme.

engineering.auckland.ac.nz/maptes

Apply and enrol

Application closing dates for 2023

BE(Hons) Semester One entry	8 December 2023
BE(Hons) Semester Two entry	4 July 2023

For a guide to applications, admission, enrolment and how to get started on the process, visit auckland.ac.nz/apply

Admission decisions are made within four weeks from receipt of the required documents. Delays may occur for future semester intakes and during peak admission periods (September to January and May to July).

Once you've accepted a programme offer you can enrol in your courses. For more information on the enrolment process, go to auckland.ac.nz/enrolment

Information about Engineering courses can be found at engineering.auckland.ac.nz/enrolment

For fee structure and payment info visit auckland.ac.nz/fees

Head over to askauckland.ac.nz if you have any more questions that are not answered here or have not been answered from the above pages.

If you are struggling at all during the process and need help contact us during business hours at **0800 61 62 63** and/or studentinfo@auckland.ac.nz

Some late applications may be accepted after 2023 school results are received. We encourage you to apply for all programmes that you might wish to study before the published closing date. Multiple applications are accepted and all applications will be considered when 2023 results are available.

If you're not offered a place in the programme(s) of your choice, you'll receive an email with alternative options. A final offer of place generally depends on two things: your admission to the University (for school leavers, this may depend on your final results) and your assessment by the relevant faculty.



For personal assistance, please phone us or visit your local Student Hub:



**UNIVERSITY OF
AUCKLAND**
Waipapa Taumata Rau
NEW ZEALAND

City Campus

Te Herenga Mātauranga Whānui | General Library:
Building 109, 5 Alfred Street, Auckland
studentinfo@auckland.ac.nz:

Grafton Campus:

Philson Library, Building 503, Level 1,
85 Park Rd, Grafton (Entry via the Atrium)

Email us: studentinfo@auckland.ac.nz

Phone: 0800 61 62 63

Web: auckland.ac.nz

South Auckland Campus

Te Papa Ako o Tai Tonga:
6 Osterley Way, Manukau

Whangārei Campus

Te Papa Ako o Tai Tokerau:
L Block, 13 Alexander Street, Whangarei



engineering.auckland.ac.nz