We all approach postgraduate study for different reasons, but are united in the challenges and thought-provoking questions that we share. As a faculty, we’re willing to satisfy intellectual curiosities, contribute to the ongoing developments in our fields and potentially create new knowledge. We welcome you to join us on our ongoing journey to do the same.

Our faculty’s research output spans diverse areas, many of them with tangible impact on our regular lives. This means you’ll get the chance to learn from globally-recognised experts whose influence extends to decisions outside the classroom. We boast strong collaborations with industry and other research organisations, and work in increasingly cross-disciplinary fields – all these ensure that we’re creating knowledge pathways towards the intellectual independence, practical skills, and empathy to understand our world.

Engineering is becoming as diverse as those who pursue it. This is valuable to our potential to address tomorrow’s global challenges – from environmental sustainability and structural safety, to the design of software and advanced medical systems. To realise this potential, we are committed to fostering collaborative environments for all our students, regardless of their professional and research backgrounds.

Congratulations for taking a step towards becoming part of our outstanding family. We look forward to seeing you apply your passions to better academia, industry and society.

PROFESSOR NIC SMITH
Dean of Engineering
The University of Auckland
LEADING THE WAY
NEW ZEALAND’S HIGHEST RANKING UNIVERSITY AND ENGINEERING FACULTY

According to the QS World University Rankings, QS World University Rankings by Faculty and the Times Higher Education Global University Employability Ranking Score 2018.

TOP UNIVERSITY IN NEW ZEALAND FOR EMPLOYABILITY

FIRST IN NEW ZEALAND IN IN GOOD COMPANY

MORE THAN 1,178 POSTGRADUATE STUDENTS ENROLLED IN 2017

20 student clubs, associations and networks

63.3% international students from over 65 countries

25% postgraduate women in engineering

According to the QS World University Rankings by Subject 2018.
We are proud to be a recognisable force – both in New Zealand and internationally – in the development of a broad range of research, from fundamental to applied, with demonstrable positive impacts on society and industry. Our faculty’s research collaborations extend beyond our immediate physical spaces; we’re seen working alongside private industries, government organisations and other research institutions, and encourage cross-disciplinary projects in emerging fields with global demand. As a postgraduate student, you’ll have access to the best subject matter experts, research centres, facilities and equipment that we can offer.

“I have been interested in how we can make robots and computers perceive the world the way humans do.”

“Vision is one of our most critical senses; by some estimates, we receive 80% of all information about our external environment from our eyes. Computer vision has been an active research area for decades, but the majority of algorithm development has taken place in a theoretical context, with powerful desktop computers and no time limitations.

“My research looks at embedded vision, implementing algorithms in computationally efficient ways so that standalone devices such as smart cameras can be part of the next generation of sensor systems. I want to make people’s lives easier so that they can individually and collectively achieve more. I want to contribute towards technologies so that people in 2050 will be able to do things that were impossible, or weren’t even imaginable in 2001.

“Receiving the University of Auckland Doctoral Scholarship means that I don’t need to worry as much about money or income, and can focus more of my energies towards research and supporting my lecturers through teaching during my time here.”

Andrew Chen
Current: PhD in Computer Systems Engineering
The Auckland Bioengineering Institute applies mathematics and engineering science to biology, with a particular emphasis on human physiology. They collaborate with experts and practitioners worldwide to improve the diagnosis and treatment of injuries and disease.

The Boundary Layer Wind Tunnel is New Zealand’s largest wind tunnel, and contains special instrumentation for many aerodynamics studies, such as investigating pedestrian flows around buildings, pressures on and vibrations of buildings, aerodynamic drag and the power of elite cyclists, and pressures on model racing cars.

The Centre for Advanced Composite Materials combines expertise from engineering, science and medicine to conduct fundamental, applied and industry-focused research on synthetic and bio-based composite materials, manufacturing processes, design and performance.

The Civil Structures Hall holds Australasia’s largest ‘strong wall’ at 9m high, a 200m² strong floor and a shake table to develop full-scale engineering projects, including earthquake testing.

The Complex Fluid Dynamics Laboratory uses state-of-the-art high-speed lasers, stereoscopic particle image velocimetry and rheometry to investigate the properties and behaviours of a wide variety of fluids, from the contents of a cow’s stomach to aerosols and foams.

The Geothermal Institute is one of the world’s first research and training centres for the field. As home to the world’s largest group of geothermal researchers, they also offer consulting services to support the planning, development and management of projects around the globe.

The Hydraulic Engineering Laboratory has a 45m-long flume – New Zealand’s largest – capable of pumping sediment and water, and is used to simulate conditions in rivers, such as flow and erosion in river beds, and at hydraulic structures.
The Laboratory for Industry 4.0 engages with essential industries to develop and test new concepts for the control of distributed automation systems within the context of the Industrial Internet of Things and Cloud Computing.

The Nanomechanical Research Laboratory is unique in its ability to test both traditional and hydrated biological materials. It specialises in measuring the properties of small-scale materials and thin films using advanced equipment including the Hysitron TriboIndenter, MTS XP and Activelife Biodent.

The Light Metals Research Centre has a dozen academics and over 20 professional and doctoral researchers dedicated to research development, technical support, training, and maintaining long-standing industry relationships in this specialised field.

The Robotics and Intelligent Systems Laboratory provides expertise in robot programming, human interaction and intelligent systems including machine learning, artificial intelligence and speech communication, with applications in healthcare and agriculture.

The Software Engineering Process Tools and Applications Group focuses on the collaborative aspects of software engineering, such as the socio-technical aspects of teams and project management methodologies, as well as human-computer interaction, spanning areas that include serious gaming, usability, user-centred design and smart energy consumption.

The Transportation Research Centre collaborates with local government, industry and international research institutes to cover a broad range of research, from road construction materials and infrastructure asset management to traffic studies and public transport.

For a list of available postgraduate research opportunities, visit:
www.engineering.auckland.ac.nz/researchprojects
www.findathesis.auckland.ac.nz
“I wanted to discover more. With so many new technologies available to us in the market, it’s important to consider new ways of working.”

“This is particularly relevant in industry, where there is a strong drive towards higher accuracy, efficiency, and cost-effectiveness.

“My research investigates the use of 3D printing to manufacture microwave devices. With it being an increasingly popular fabrication method, exploring the possibility of new alternatives for prototyping piqued my curiosity.

“I chose to do the ME part-time, so I can pursue my passion for research while still working and gaining industry experience full-time. The ability to do this was one of the driving factors behind my choice to continue studying here. My lecturers and technicians have been extremely accommodating to my work-study situation, and I get the freedom to manage my own time.

“I have two supervisors; each from different Engineering departments, which added depth to my research. I got access to more expertise, resources and facilities, as well as some great industry contacts. They’re very open and flexible to ideas, and it’s interesting to see how many opportunities can arise from just a single conversation!”

Priya Mittal
Current: Master of Engineering in Electrical and Electronics Engineering
Our variety of postgraduate programmes reflects the diversity of our faculty and the ever-evolving engineering market. Choose from over 20 specialist areas, study full-time or while working, pursue in-depth research by writing a thesis, or expand your practical skills through a coursework-based qualification.

**Postgraduate Certificate in Engineering (PGCertEng)**
Taught (60 points)
Full-time (6 months) or part-time (2 years)
This certificate provides graduate engineers with advanced technical or management foundations and new industrial perspectives, expanding their employability in their sector of choice. A Plastics specialisation is available for those wishing to pursue further career opportunities in materials and processing in this field, and can be completed by distance learning.
www.engineering.auckland.ac.nz/pgcerteng

**Postgraduate Certificate in Geothermal Energy Technology (PGCertGeothermTech)**
Taught (60 points)
Full-time (6 months) or part-time (2 years)
This world-recognised programme gives engineers and scientists practical and applied skills in the geothermal energy industry, equipping them to pursue diverse roles in this sector. It includes two week-long field trips and a block structure to fit in with work commitments.
www.engineering.auckland.ac.nz/pgcertgeothermtech

**Postgraduate Certificate in Light Metals Reduction Technology (PGCertLMRTech)**
Taught (60 points)
Full-time (6 months)
A prestigious and globally respected certificate that equips engineers with highly valuable and lucrative skills to run light metal smelters across the world. It includes a stimulating three-week residential course at a working smelter, along with distance learning carried out at home to minimise disruption to your career.
www.engineering.auckland.ac.nz/pgcertlmrtech

“I really liked discovering that there is space for you to do research that you feel is important; be it addressing issues back home, or looking at a problem that affects you personally.

“I didn’t realise that postgraduate study can almost be anything you want it to be. I think a lot of people tend to see further study as an expansion of their undergraduate programme, but it’s much more than that.

“My research focused on the impacts of the Rena oil spill in 2011, which I chose as my whānau are from the affected area. I felt more immersed in the research as I was studying something that was real to me, rather than an abstract or theoretical concept. I thought that applying my values and culture directly into research was really cool, and saw this as a way to make a meaningful contribution to something that’s affected my family and people.

“My PhD research was very much tied to working with Māori communities and traditional knowledge, and seeing where they fit alongside Western engineering. There’s a visible disconnect at times between the human and technical aspects of engineering, so it was great to engage with both, and use different methodologies to bridge the gap. At times, I was approaching my work from a humanities-driven angle, and understanding how important that is to society – and the field of engineering – as a whole.

“As a lecturer, I’m hoping to see our faculty and students gain stronger awareness of, and become more familiar with Te Ao Māori (The Māori World) and our cultural concepts, because it is important to who we are as New Zealanders. There’s an opportunity for us to lead within this space, and prepare our engineers so they are well-rounded and can confidently navigate these cross-cultural contexts.”

Tūmanako Ngāwhika Fa’aui (Te Arawa)
Graduate: PhD in Civil Engineering
Current: Lecturer in Civil Engineering at University of Auckland
Postgraduate Diploma in Engineering (PGDipEng)
Taught (120 points)
Full-time (1 year) or part-time (4 years)
This qualification gives students with a three-year engineering bachelors degree an opportunity to build on their previous skills, resulting in a well-rounded knowledge of the principles, concepts and ideas that underpin a chosen specialisation. It is designed to provide a pathway to further study in a masters programme.
www.engineering.auckland.ac.nz/pgdipeng

Postgraduate Diploma in Operations Research (PGDipOR)
Taught (120 points)
Full-time (1 year) or part-time (4 years)
The PGDipOR is offered alongside the Faculty of Science to equip engineers with problem-solving skills in the design and management of large or complex systems in business, industry and government. It is of particular interest to those pursuing roles in predictive or prescriptive analytics in a broad selection of industries.
www.engineering.auckland.ac.nz/pgdipor

Master of Disaster Management (MDisMgt)
Taught (120 or 180 points)
Full-time (1 year or 18 months) or part-time (2 or 3 years)
Draw from expertise throughout the University – Engineering, Development Studies, Science, Population Health, Environmental Law, and Architecture and Planning – to prepare for leadership roles in disaster risk reduction, response, recovery and resilience.
www.engineering.auckland.ac.nz/mdismgt

Master of Earthquake Engineering (MEqEng)
Taught (120 or 180 points)
Full-time (1 year) or part-time (3 or 4 years)
A coursework-based programme that fulfils increasing industry needs for the next generation of leaders, drawing from our internationally-recognised expertise in geotechnical and structural engineering.
This programme is currently subject to CUAP approval.

Master of Energy (MEnergy)
Taught or research (120 or 180 points)
Full-time (1 year) or part-time (2 or 4 years)
This programme is ideal for engineering, science or commerce graduates who want to develop their technical, business or policy-related expertise, leading to global, sustainable career pathways, including positions such as energy consultants, project managers, or energy modelling analysts.
www.engineering.auckland.ac.nz/menergy

Master of Engineering (ME)
Research (120 or 180 points)
Full-time (1 year or 18 months) or part-time (2 or 3 years)
Write a thesis under supervision by leading academics and researchers in your chosen specialisation. You will undertake a stimulating mix of theoretical and experimental research to solve real-world problems at the cutting edge of engineering advancement, equipping you for a career in industry or opening up the potential for further study.
www.engineering.auckland.ac.nz/me

“I was drawn to the MEMgt after recommendations from my colleagues, and was attracted to its structure and content. I saw it as a path towards management opportunities in the future, so it fits my career progression goals.

“Initially, the programme helped me to engage with the management side of business. Later on, I got to better understand how business decisions align with a company’s goals. I’ve used some of the management tools and theories at work, and they’ve proven to be very effective. Having a technical role at work also allows me to improve these particular capabilities on the job, but at the same time, my understanding of how business and management decisions work help me to make better choices in my daily tasks.

“The programme is structured in a way that supports working people, with night classes and online courses available. You also get a chance to meet engineers from other industries and companies who are at the same point in their career as you.”

Rui Ding
Graduate: Master of Engineering Management

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Rui Ding
Graduate: Master of Engineering Management

“I did my undergraduate degree at the University of Auckland, so I was familiar with how everything worked, but it was really the flexibility of postgraduate study that interested me.”
Master of Engineering Project Management (MEPM)
Taught (120 or 180 points)
Full-time (1 year or 18 months) or part-time (3 or 4 years)
A career-focused qualification that capitalises on New Zealand’s position as a cultural force in the world of successful start-ups. The MEPM provides key management practices as you study towards an industry-recognised professional certification.
www.engineering.auckland.ac.nz/mepm

Master of Engineering Management (MEMgt)
Taught (120 points)
Full-time (1 year) or part-time (3 years)
This prestigious programme offered by the Faculty of Engineering and the University of Auckland Business School is viewed as ‘an MBA for engineers’, and provides you with the technical foundations, project management skills and business acumen needed to pursue leadership roles in technologically-driven companies.
www.engineering.auckland.ac.nz/memgt

Master of Engineering Studies (MEngSt)
Taught or research (120 or 180 points)
Full-time (1 year or 18 months) or part-time (2 or 3 years)
A primarily taught masters with diverse specialisations, allowing you to tailor your study towards your professional goals and interests. Gain applied knowledge to pursue roles with regulatory, management or product development scopes. A research option is available for the Food Process Engineering, and Medical Devices and Technologies specialisations.
www.engineering.auckland.ac.nz/mengst

Master of Operations Research (MOR)
Research (120 points)
Full-time (2 years) or part-time (2 years)
The MOR gives students from a variety of backgrounds – including arts, commerce, engineering or science – skills in network design simulations and dynamic programming to perform rigorous intellectual analysis, as well as solve complex industry problems in healthcare, transport, finance, energy, telecommunications, government and manufacturing.
www.engineering.auckland.ac.nz/mor

Doctor of Philosophy (PhD)
Doctoral research
Full-time (3–4 years); a part-time option is available to domestic students only
The PhD involves undertaking advanced, independent and original research. You will be able to pursue a specialisation of your choice under the supervision of – and by collaborating with – our world-class academics, and gain the advanced knowledge needed for specialised industry or consulting positions, or teaching or academia.
www.engineering.auckland.ac.nz/phd

Master of Engineering Project Management (MEPM)

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1 Interfaculty with Science and Business. 2 Interfaculty with Business. 3 Interfaculty with Science.

r Available as a research area in the associated department

FUNDING YOUR STUDY

$40 million
in postgraduate scholarships are offered by the University of Auckland each year

Guaranteed scholarships are available to domestic research students and PhD applicants with a qualifying programme from a New Zealand university who meet GPA requirements: www.auckland.ac.nz/makethegrade

Summer Research Scholarships give you a $6000 tax-free stipend to enhance your CV and gain research experience: www.summer.ac.nz

Doctoral students receive an annual stipend paid into their PReSS accounts for up to four years to cover direct research costs, such as overseas conferences: www.auckland.ac.nz/press-accounts

FIND ONE THAT SUITS YOU AT www.engineering.auckland.ac.nz/scholarships
Admission to postgraduate programmes

- Admissions for 2019 close on 8 December 2018 (Semester One) and 4 July 2019 (Semester Two) with the following exceptions:
  - Postgraduate Certificate candidates should refer to the programme websites for up-to-date information on admission deadlines.
  - Eligible candidates can apply for a PhD throughout the year.
  - Information on your fees is available on www.auckland.ac.nz/fees; this is based on your subject choices and workload.
  - English language requirements: We require an overall IELTS academic score of 6.5, with no bands below 6.0. See www.auckland.ac.nz/pg-english-reqs for approved alternatives to IELTS.
  - Grades from previous study: Grades or marks achieved at the University of Auckland are given a grade point average (GPA). Grades obtained at other institutions are converted to grade point equivalent (GPE) on our scale. See www.gpecalculator.auckland.ac.nz for more information.

Entry requirements

Postgraduate certificates or postgraduate diplomas
You must have completed an undergraduate degree at a recognised tertiary institution, in a field relevant to your specialisation. Visit our website for GPA or GPE requirements.

Masters degrees
You will need a GPA or GPE of 4.0 for the Master of Engineering Studies. For all other masters, a GPA or GPE of 5.0 is required. If you don’t meet this criteria, passing courses towards a postgraduate certificate with the appropriate GPA may gain you entry into a masters degree.
  - 120-point programme: a four-year bachelors degree in engineering where the final year consists of postgraduate-level study relevant to your chosen specialisation
  - 180-point programme: an undergraduate degree in engineering at a university (or similar institution) in a field relevant to your chosen specialisation

Doctoral degrees
You must be able to carry out independent research and have completed a significant research project, dissertation or thesis, at university. Acceptance into our doctoral programme is dependent on the availability of supervision and facilities.
  - Applicants with New Zealand qualifications must have completed a postgraduate bachelor’s (honours) degree with first class or second class (division 1) honours, or a masters degree with first class or second class (division 1) honours, in a field related to your doctoral studies.
  - Applicants with overseas qualifications must have completed a masters-level qualification in a field related to your doctoral studies with a GPE of at least 5.5.

How to apply

Applying for a non-doctoral programme
  - The Application for Admission is available at www.apply.auckland.ac.nz, where you can also check your application status and see what supporting documents you will need to provide.
  - If you applied for an intake in the following semester, a decision will be made within four weeks. Delays may occur for future semester intakes, during peak admission periods, or if documents take longer to process.

Applying for a PhD programme
  - Make sure you meet all entry requirements and have decided on an area of interest or potential research topic.
  - Apply at www.auckland.ac.nz/applydoctorate.
  - Assessment of your doctoral application can take eight weeks or longer. You can check your application status online and see what supporting documents are required.

International students
A copy of your offer of place from the University is required to supplement your visa application. We recommend starting your University application as soon as possible and contacting an overseas representative for help at www.auckland.ac.nz/overseasrep.

This is a general guide. Please refer to www.auckland.ac.nz/pg-entry-reqs for detailed information.