



THE UNIVERSITY OF
AUCKLAND
Te Whare Wānanga o Tāmaki Makaurau
NEW ZEALAND

Science

Postgraduate Prospectus 2021



No 1
New Zealand
University*



No 1
Global
Reputation**



No 1
In New Zealand
for Employability***



Nau mai, haere mai

Welcome from the Dean of Science

Going to the next level

Moving from undergraduate study to postgraduate study is a significant step. It affords an opportunity to challenge your mind and extend your scientific learning to the boundaries of human knowledge.



Postgraduate study develops important skills such as leadership and critical thinking, as well as an understanding of research and its impact. It sets you up for more interesting and challenging careers.

As a postgraduate student in the Faculty of Science, you will experience the opportunities that a world-class university can offer:

- Work with researchers in the nation's leading and largest science faculty.*
- Study with close to 2000 New Zealand and international postgraduate science students.
- Access high-quality laboratory and field-research facilities, including our recently developed \$200 million Science Centre building.
- Connect to the University's unsurpassed networks with premier international universities and organisations.
- Apply for the University's scholarship funding (in 2019 we offered scholarships, awards and prizes to a total value of more than \$40 million for postgraduate study).
- Take advantage of the vast employment and industry collaboration prospects offered by living and studying in Auckland, New Zealand's commercial capital.

- Complement your research training with a range of innovation and entrepreneurship career development programmes.

For the latest information about the many outstanding research-based and tuition-based postgraduate qualifications offered by the faculty, I invite you to explore this prospectus and the web pages of our departments and research groups.

I look forward to welcoming you to New Zealand's foremost Faculty of Science.

A handwritten signature in black ink, appearing to read 'John Hosking', with a long horizontal stroke extending to the right.

PROFESSOR JOHN HOSKING

Dean, Faculty of Science
University of Auckland

**www.science.auckland.ac.nz/excellence*

Cover attributions:

*QS World University Rankings 2020

**QS World Rankings Academic and Employer Reputation 2020

***QS Graduate Employability Rankings 2020

LEADING THE WAY



NEW ZEALAND'S LEADING FACULTY OF SCIENCE*

NEW ZEALAND'S HIGHEST RANKING UNIVERSITY**

TOP UNIVERSITY IN NEW ZEALAND FOR EMPLOYABILITY***

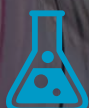
STATE OF THE ART FACILITIES

11 OF THE UNIVERSITY'S SCIENCE SUBJECTS

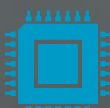
RANKED 1ST IN NEW ZEALAND*



Biological
Sciences



Chemistry



Computer Science
and Information
Systems



Earth and
Marine Sciences



Environmental
Sciences



Geography



Materials
Sciences



Mathematics



Physics and
Astronomy



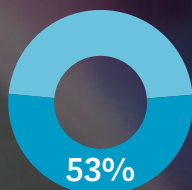
Psychology



Statistics and
Operational
Research

1583

POSTGRADUATE
STUDENTS
ENROLLED IN 2019



POSTGRADUATE
WOMEN IN SCIENCE

595

INTERNATIONAL
POSTGRADUATE
STUDENTS



FROM

80

DIFFERENT
COUNTRIES

16

SCIENCE CLUBS
AND SOCIETIES

*QS World University Rankings by Subject 2020

**Times Higher Education and QS World University Rankings 2020

***QS Graduate Employability Rankings 2020

The above are EFTS student numbers



"I chose the Master of Science in Clinical Exercise Physiology because I wanted to study something that I could use to promote a holistic approach to health and wellbeing."

"If you would like to make a meaningful impact on the lives of people living with chronic conditions, then clinical exercise physiology is the one."

"The qualification provides an opportunity to address the current gaps in healthcare which include the lack of individualised, evidence-based specialist exercise interventions within the community setting. I enjoyed the social aspect of the practical classes and the clinical hours the most. It enabled me to increase my confidence and interpersonal skills before entering the workforce. Furthermore, it helped us learn how complex and unique each individual's journey is within the healthcare system. The facilities and postgraduate support from supervisors were also excellent."

"Since graduating, I have been working at Te Puna Hauora health and social services in the North Shore area. A recent project I've worked on is called He Ngākau Hou, which is a comprehensive exercise program specific to chronic disease management for Māori. It's a unique approach to health promotion which embodies both scientific and cultural models of care. I would like to advocate for clinical exercise physiologists within primary healthcare and hopefully one day have multiple clinics such as He Ngākau Hou available in areas which are accessible for those at higher risk of cardiovascular disease."

"I hope my work will improve the health and wellbeing of individuals suffering with or who are at high risk of developing cardiovascular disease and other long term chronic conditions. Whānau drives me. Watching them take back control of their healthcare and having the confidence to speak up and utilise the current healthcare services which they think will benefit them the most."

Anita Kumar

Graduate: Master of Science in Clinical Exercise Physiology

Iwi: Ngati Haua

Fijian Indian

Leaders in research

As New Zealand's leading science faculty*, we are committed to building on our high international standing in research. Whether you're considering BSc(Hons) or Masters or you're ready for a PhD, we look forward to supporting you in your postgraduate studies.

4 **CAMPUSES**
CITY, NEWMARKET,
LEIGH AND GRAFTON

10 **DEPARTMENTS
AND SCHOOLS**

Research funding

Science plays a vital role in addressing the key issues that confront us and future generations. For this reason, research in the faculty is regularly successful in funding rounds for a broad range of projects, from the timing of volcanic eruptions to computer software protection.

Each year, the Faculty of Science receives research grants of approximately \$50 million from government and non-government institutions.



Research projects

As a postgraduate student in the Faculty of Science, you have the opportunity to collaborate with passionate academic staff who are working at the cutting-edge of international research.

Our faculty benefits from strong collaborations within the academic community worldwide and nationally. Our relationship with commercial industry is an important aspect of scientific research and innovation, and we are proud of our significant links to the Crown Research Institutes of New Zealand.

We host four Joint Graduate programmes with national research institutions which provide extra opportunities for projects with an applied focus.

www.science.auckland.ac.nz/pg-research

8 **INTERDISCIPLINARY
RESEARCH THEMES**

Research vision

Our research themes focus our thinking on how we can best advance knowledge to serve local, regional and global society. Our research-intensive environment nurtures graduates who are able to articulate and to challenge established knowledge, and who are equipped with the skills to reshape our world. The Faculty of Science has embraced the University of Auckland's five Global and Local Challenges, by developing eight research themes.

- **KNOWLEDGE SCIENCES:** Focuses on the representation, modelling, communication and processing of ideas and information, ranging from abstract foundations to concrete designs and representations in computers and in the human mind.
- **OUR WORLD AND UNIVERSE:** Seeks to advance our understanding of our planet and universe, utilising the nation's access to space and related resources to further fundamental and applied science.
- **AROHA ATU, AROHA MAI – SCIENCE IN SOCIETY:** Focuses on connecting our science to Aotearoa and the world.
- **HEALTHY PEOPLE, HEALTHY COMMUNITIES:** Focuses on understanding human diseases, human disorders and their causes and treatments.
- **FOOD, FOOD PRODUCTION AND NUTRITION:** Focuses on food, from farm to plate.
- **A SUSTAINABLE FUTURE:** Focuses on the sustainability of our terrestrial, marine and freshwater environments, our climate, and human resilience.
- **FUTURE MATERIALS AND TECHNOLOGIES:** Focuses on advanced materials and processes to create a better future.
- **COMPUTATIONAL BIOLOGY:** Focuses on molecular and computational analysis and understanding of biological systems, spanning the sub-cellular through to population level dynamics.

2 **CENTRES OF
RESEARCH
EXCELLENCE**

Centres of Research Excellence

The faculty is host to two of the ten national Centres of Research Excellence (CoREs).

Maurice Wilkins Centre

The Maurice Wilkins Centre for Molecular Biodiscovery is a multidisciplinary network that brings together leading biologists, chemists and computer scientists from around the country to target major human diseases with a focus on cancer, metabolic disease and infectious disease. The Centre aims to harness outstanding local expertise to develop cutting-edge drugs and vaccines, tools for early diagnosis and prevention, and new models of disease.

The centre is led by ten of the country's most celebrated scientists and brings together more than 230 investigators from ten universities and research organisations throughout the country. The network also includes over 240 early career researchers, including postgraduate students as affiliate investigators and 28 clinical associates.

www.mauricewilkinscentre.org



Te Pūnaha Matatini

Te Pūnaha Matatini – 'the meeting place of many faces' – brings together experts from across New Zealand to develop methods and tools for transforming complex data about the environment, economy, and society into knowledge, tools and insight for better decision making.

The centre, which involves nearly 80 investigators, has played a leading role in New Zealand's COVID-19 response – providing timely science-based modelling research used to inform government policy. An affiliated network (Te Pūnaha Matatini Whānau) provides events and activities for interested postgraduate students.

www.tepunahamatatini.ac.nz

*www.science.auckland.ac.nz/excellence.

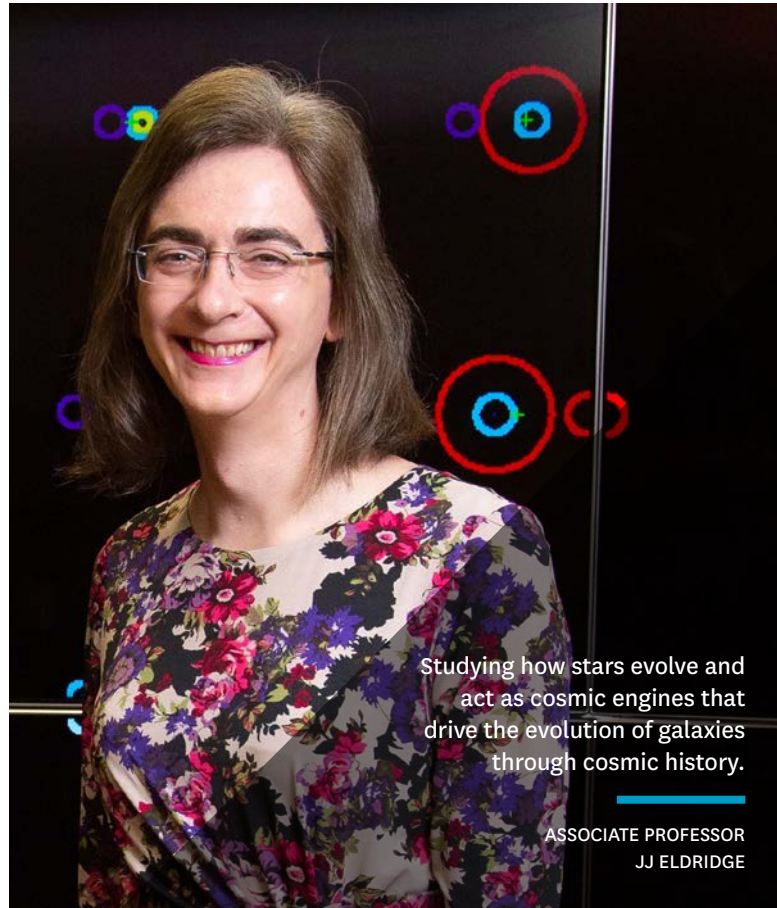
Our research

The Faculty of Science produces cutting-edge research across ten departments and schools. This collection showcases some of our academic staff and their research.



Using multidisciplinary approaches to answer challenging questions about marine megafauna, including humpback whale connectivity from the tropics to Antarctica.

ASSOCIATE PROFESSOR
ROCHELLE CONSTANTINE



Studying how stars evolve and act as cosmic engines that drive the evolution of galaxies through cosmic history.

ASSOCIATE PROFESSOR
JJ ELDRIDGE




Understanding how intelligence evolves, with particular focus on the convergent evolution of cognition, by conducting behavioural experiments on kea, crows, dogs and humans.

ASSOCIATE PROFESSOR
ALEX TAYLOR




In search of the elusive “stem” cell in human fat samples using complex fluorescent spectral cytometry.

SENIOR RESEARCH FELLOW
DR ANNA BROOKS

A woman with short, curly blonde hair and glasses, wearing a dark blue cardigan over a patterned top, sits at a desk with papers and a laptop. A cityscape is visible through the window behind her.


Developing robust Bayesian methods to filter the signal out of noisy gravitational wave data in collaboration with astrophysicists.

PROFESSOR RENATE MEYER

A woman with long brown hair wearing safety goggles and a white lab coat, working in a laboratory with glassware and equipment.

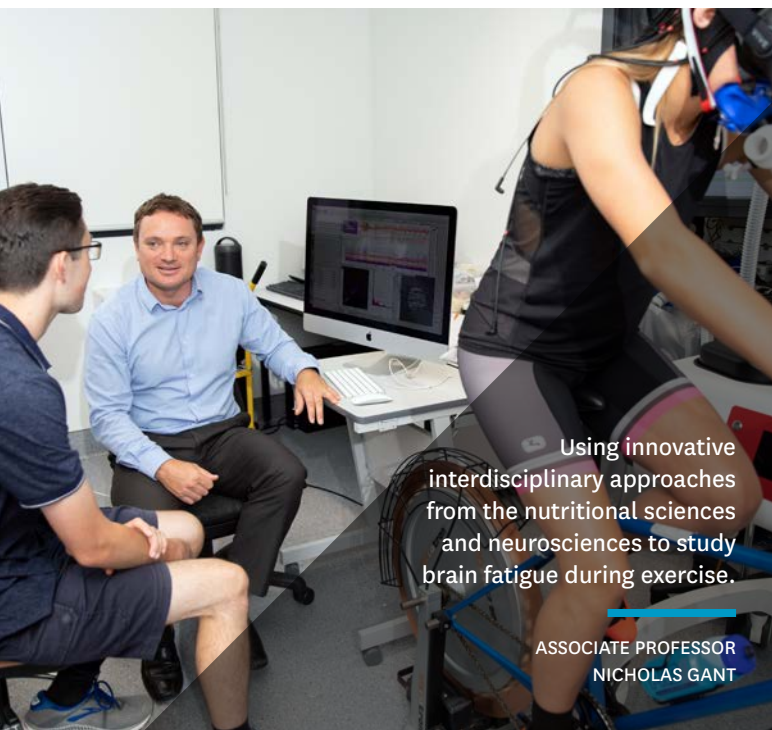
Focusing on creating new inorganic polymers from earth abundant elements.

SENIOR LECTURER
DR ERIN LEITAO

A man wearing a hat and sunglasses sits on dark, jagged rocks by the ocean. Waves are crashing against the rocks, and mountains are visible in the distance under a blue sky with clouds.


Studying volcanoes and geothermal areas to figure out why they explode or otherwise cause harm to life and infrastructure.

PROFESSOR SHANE CRONIN

A man in a light blue shirt sits at a desk with a computer, talking to another person. In the background, a person is exercising on a stationary bike.

Using innovative interdisciplinary approaches from the nutritional sciences and neurosciences to study brain fatigue during exercise.

ASSOCIATE PROFESSOR
NICHOLAS GANT

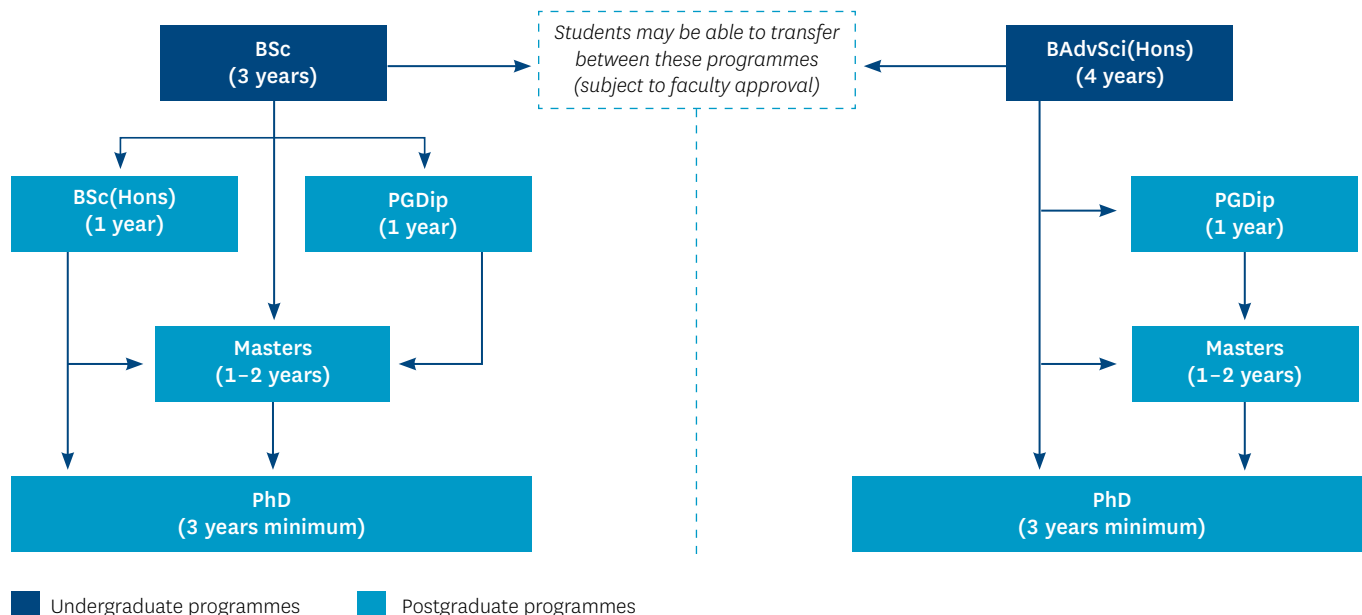
A man in a light blue button-down shirt sits at a desk with multiple computer monitors, typing on a laptop.

Developing new approaches to combat potential cyberattacks and preserve users' privacy in untrusted environments.

SENIOR LECTURER
DR RIZWAN ASGHAR

Our postgraduate programmes

Postgraduate pathways



Choose from a variety of postgraduate programmes on offer at New Zealand's leading and largest science faculty. Pursue a research-based or tuition-based qualification, study full-time or part-time and work with researchers in high-quality laboratory and field research facilities. A wide range of subjects in our broad programmes are available, or choose one of our specialist programmes.

Bachelor of Science (Honours) (BSc(Hons))

Taught (120 points)

Full-time (1 year) or part-time (varies)

From Mathematics to Medicinal Chemistry; Biotechnology to Geography and Food Science to Photonics, the sheer range of specialisations available in the BSc(Hons) programme means you're sure to find your niche. What's more, you'll be able to deepen your knowledge and skills in your specialist area.

www.science.auckland.ac.nz/bsc-hons

Postgraduate Diploma in Science (PGDipSci)

Taught (120 points)

Full-time (1 year) or part-time (varies)

Pursue advanced study in your specialist area with the Postgraduate Diploma in Science. Extend your knowledge with coursework or try a project or dissertation as part of your diploma – the option is yours. The PGDipSci offers a pathway toward undertaking a master degree and following that, doctoral study.

www.science.auckland.ac.nz/pgdipsci

Master of Science (MSc)

Taught or research (120 or 240 points)

Full-time (varies) or part-time (varies)

The MSc enables you to pursue advanced study in your area of interest with the opportunity to work on independent research. While a taught masters will provide you with specialist training in your chosen field, a research masters will develop advanced research skills, working alongside Faculty of Science researchers – many of whom are major contributors in their field.

www.science.auckland.ac.nz/msc

Doctor of Philosophy (PhD)

Doctoral research (120 points per year of full-time study)

Full-time (3 to 4 years) or part-time (6 to 8 years)

The University of Auckland PhD is a globally recognised postgraduate research degree and the highest level of degree you can achieve. With 40 different science subjects available, candidates will undertake independent and original research, supervised by academic experts and research leaders. During your doctoral studies, you will have opportunities to expand and develop your personal, professional and academic skills.

www.science.auckland.ac.nz/phd

Earth and environmental sciences

Master of Engineering Geology (MEngGeol)

Research (120 or 180 points)

Full-time (varies) or part-time (varies)

This interfaculty programme teaches you the essential skills to mitigate the impact of natural processes and man-made structures in order to prevent and control hazards. By focusing on the development of accurate and reliable geological ground models, you will be well equipped to work within New Zealand's complex environment and contribute to the projected construction boom.

www.science.auckland.ac.nz/menggeol

Master of Environmental Science (MEnvSci)

Taught or research (180 points)

Full-time (18 months) or part-time (varies)

Gain the specialist knowledge and skills to contribute solutions to issues associated with ongoing and rapid change in the earth's environmental systems. You will study water-use and governance, air and water quality, ecosystem ecology, environmental modelling and analysis, climate change, and resource management. Graduates will have developed the crucial conceptual and practical skills required of professional environmental scientists in research and industry.

www.science.auckland.ac.nz/menvsci

See table on p10-11 for the available subjects.



“After finishing my honours degree and gaining experience in research, I decided to test the waters by doing a Master of Science to see if I could actually go through with a three-year PhD.”

“I ended up loving the idea of studying something that no one has really looked at before – and all at my own pace. The amount of support I had from my supervisor and the department during my MSc made me realise that this was something I enjoy and should pursue further.

“I have lived my whole life in Auckland so proximity was the main reason I chose the University of Auckland at first. As I stayed past the BSc, however, I realised that the department and staff in Physics are quite renowned and, especially in the field I’m in, there is some really strong research being produced.

“I’m in the field of theoretical quantum optics – more specifically cavity quantum electrodynamics. I study the interactions between light and matter using quantum mechanical principles. For my thesis topic, I’m currently studying signal processing in a quantum optics setting. Essentially I’m developing a computational model that will allow us and others to better filter frequency signals in quantum optics simulations. Experimentally this can be done quite easily but we would like a theoretical tool that can, in principle, do even better.

“I received the University of Auckland Doctoral Scholarship which has helped immensely by allowing me to not worry about needing to work outside of university so that I can focus more on my studies/research. I would like to stay in the academic field and do research at different universities overseas. At the postgraduate level I have really felt like a part of the department. People who were once your lecturers become your colleagues and it is a welcoming environment to work in.”

Jacob Ngaha

Graduate: Bachelor of Science in Physics and Mathematics, Bachelor of Science (Honours) in Physics, Master of Science in Physics.

Current: Doctor of Philosophy in Physics

Iwi: Waikato-Tainui and Ngati Maniapoto

Areas of study

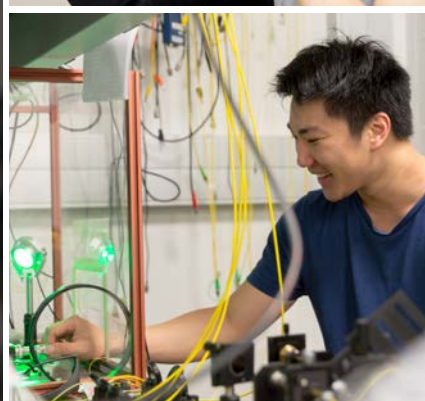
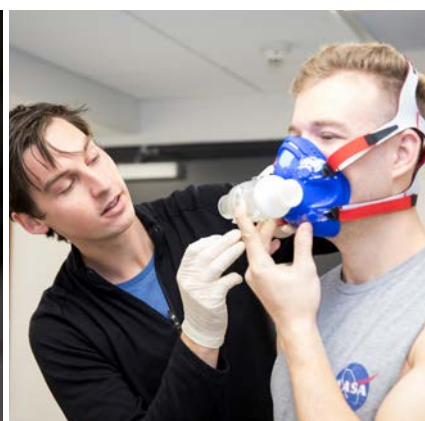
| | Honours | PGDip | Masters | PhD | Web address | Contact information |
|------------------------------|---------|-------|---------|-----|------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Earth Sciences | | | | | | |
| Earth Sciences | ✓ | ✓ | ✓ | * | www.science.auckland.ac.nz/pg-earth-sci | env-graduate@auckland.ac.nz |
| Environmental Science | | ✓ | ✓ | ✓ | www.science.auckland.ac.nz/pg-env-sci | env-graduate@auckland.ac.nz |
| Engineering Geology | | | ✓ | | www.science.auckland.ac.nz/menggeol | env-graduate@auckland.ac.nz |
| Geology | | | | ✓ | www.science.auckland.ac.nz/pg-earth-sci | env-graduate@auckland.ac.nz |
| Geophysics | ✓ | ✓ | ✓ | * | www.science.auckland.ac.nz/pg-geophysics | env-graduate@auckland.ac.nz |
| Human Sciences | | | | | | |
| Applied Psychology | | ✓ | | | www.science.auckland.ac.nz/pg-applied-psych | psych@auckland.ac.nz |
| Clinical Exercise Physiology | | ✓ | ✓ | * | www.science.auckland.ac.nz/pg-clin-exercise-physio | pgadvice-es@auckland.ac.nz |
| Environmental Management | | ✓ | ✓ | * | www.science.auckland.ac.nz/pg-env-management | env-graduate@auckland.ac.nz |
| Exercise Sciences | ✓ | ✓ | ✓ | ✓ | www.science.auckland.ac.nz/pg-exercise-sci | pgadvice-es@auckland.ac.nz |
| Psychology | ✓ | ✓ | ✓ | ✓ | www.science.auckland.ac.nz/pg-psych | psych@auckland.ac.nz |
| Speech Language Therapy | | | ✓ | | www.science.auckland.ac.nz/speech-language-therapy | psych@auckland.ac.nz |
| Speech Science | | ✓ | ✓ | ✓ | www.science.auckland.ac.nz/pg-speech-sci | psych@auckland.ac.nz |
| Life Sciences | | | | | | |
| Bioinformatics | ✓ | ✓ | ✓ | * | www.science.auckland.ac.nz/pg-bioinformatics | sbsinfo@auckland.ac.nz |
| Biological Sciences | ✓ | ✓ | ✓ | ✓ | www.science.auckland.ac.nz/pg-biological | sbsinfo@auckland.ac.nz |
| Bioscience Enterprise | | ✓ | ✓ | | www.science.auckland.ac.nz/pg-biosci | sbsinfo@auckland.ac.nz |
| Biomedical Science** | ✓ | ✓ | ✓ | ✓* | www.science.auckland.ac.nz/biomed-pg | sbsinfo@auckland.ac.nz |
| Biosecurity and Conservation | | ✓ | ✓ | * | www.science.auckland.ac.nz/pg-biosecurity-conservation | sbsinfo@auckland.ac.nz |
| Biotechnology | ✓ | ✓ | ✓ | | www.science.auckland.ac.nz/pg-bio-tech | sbsinfo@auckland.ac.nz |
| Geography | ✓ | ✓ | ✓ | ✓ | www.science.auckland.ac.nz/geography-pg | env-graduate@auckland.ac.nz |
| Marine Conservation | | | ✓ | | www.science.auckland.ac.nz/mmmarinecons | pgscience@auckland.ac.nz |
| Marine Science | | ✓ | ✓ | ✓ | www.science.auckland.ac.nz/pg-marine-sci | marine@auckland.ac.nz |
| Optometry | | ✓ | ✓ | * | www.science.auckland.ac.nz/optometry | pgscience@auckland.ac.nz |
| Physiology | ✓ | ✓ | ✓ | ✓ | www.science.auckland.ac.nz/pg-psych | physiology@auckland.ac.nz |



| | Honours | PGDip | Masters | PhD | Web address | Contact information |
|------------------------------------------------|---------|-------|---------|-----|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mathematical and Computational Sciences | | | | | | |
| Applied Mathematics | ✓ | ✓ | ✓ | * | www.science.auckland.ac.nz/pg-applied-maths | pgadvice@math.auckland.ac.nz |
| Computer Science | ✓ | ✓ | ✓ | ✓ | www.science.auckland.ac.nz/pg-comp-sci | honourscoordinator@cs.auckland.ac.nz msccordinator@cs.auckland.ac.nz diploma@cs.auckland.ac.nz |
| Data Science | | | ✓ | | www.science.auckland.ac.nz/pg-data-sci | pgscience@auckland.ac.nz |
| Digital Security | | | ✓ | * | www.science.auckland.ac.nz/pg-digital-security | pgscience@auckland.ac.nz |
| Information Technology | | | ✓ | | www.science.auckland.ac.nz/pg-info-tech | pgscience@auckland.ac.nz |
| Logic and Computation | ✓ | ✓ | ✓ | * | www.science.auckland.ac.nz/pg-logic-comp | pgscience@auckland.ac.nz |
| Mathematics | ✓ | ✓ | ✓ | ✓ | www.science.auckland.ac.nz/pg-maths | pgadvice@math.auckland.ac.nz |
| Mathematics Education | | | ✓ | * | www.science.auckland.ac.nz/pg-maths-ed | pgscience@auckland.ac.nz |
| Medical Statistics | | ✓ | ✓ | ✓ | www.science.auckland.ac.nz/pg-med-stats | gradofficer@stat.auckland.ac.nz |
| Operations Research | | ✓ | ✓ | * | www.science.auckland.ac.nz/pgdip-or | pgscience@auckland.ac.nz |
| Statistics | ✓ | ✓ | ✓ | ✓ | www.science.auckland.ac.nz/pg-statistics | gradofficer@stat.auckland.ac.nz |
| Physical and Chemical Sciences | | | | | | |
| Chemistry | ✓ | ✓ | ✓ | ✓ | www.science.auckland.ac.nz/pg-chemistry | chemistry@auckland.ac.nz |
| Food Science | ✓ | ✓ | ✓ | ✓ | www.science.auckland.ac.nz/pg-food-sci | chemistry@auckland.ac.nz |
| Forensic Science | | ✓ | ✓ | ✓ | www.science.auckland.ac.nz/pg-forensic-sci | chemistry@auckland.ac.nz |
| Green Chemical Sciences | ✓ | ✓ | ✓ | * | www.science.auckland.ac.nz/grchemsci | chemistry@auckland.ac.nz |
| Medical Physics and Imaging Technology | ✓ | | | * | www.science.auckland.ac.nz/pg-med-physics | physics@auckland.ac.nz |
| Medicinal Chemistry | ✓ | | | * | www.science.auckland.ac.nz/pg-med-chem | chemistry@auckland.ac.nz |
| Pharmacology | ✓ | ✓ | ✓ | * | www.science.auckland.ac.nz/pharmacology-pg | pgscience@auckland.ac.nz |
| Photonics | ✓ | | | | www.science.auckland.ac.nz/pg-photonics | pgscience@auckland.ac.nz |
| Physics | ✓ | ✓ | ✓ | ✓ | www.science.auckland.ac.nz/pg-physics | physics@auckland.ac.nz |
| Wine Science | | ✓ | ✓ | * | www.science.auckland.ac.nz/pg-wine-sci | chemistry@auckland.ac.nz |

*These subjects are available as areas of PhD study within other subjects in the Faculty of Science or within other faculties at the University. Please consult a postgraduate adviser about availability.

**The Honours, Postgraduate Diploma and Masters options for Biomedical Science are offered by the Faculty of Medical and Health Sciences.



Biological, health and life sciences

Master of Bioscience Enterprise (MBioEnt)

Research (120 points)

Full-time (1 year) or part-time (varies)

This research masters degree blends the best of Science, Business and Law and teaches scientists to understand and protect the value of their research. You'll learn how to translate breakthrough discoveries into high value products, strategies for commercialisation, and the analysis tools required to undertake a research project. You'll also complete a six-month industry internship.

www.science.auckland.ac.nz/mbioent

Master of Marine Studies (MMarineSt)

Taught or research (180 points)

Full-time (18 months)

Learn about cross-disciplinary approaches to marine science, and develop your practical skills in research design, environmental management and field techniques.

www.science.auckland.ac.nz/mmarinest

Master of Marine Conservation (MMarineCons)

Taught or research (180 points)

Full-time (varies) or part-time (varies)

Make a difference in the marine conservation field with this programme which focuses on finding solutions to complex issues that characterise the management and conservation of the marine environment. You will have the opportunity to upskill, improve knowledge, and gain research experience. The taught masters includes a 30-point project, whereas the research masters includes a 90-point thesis.

www.science.auckland.ac.nz/mmarinecons

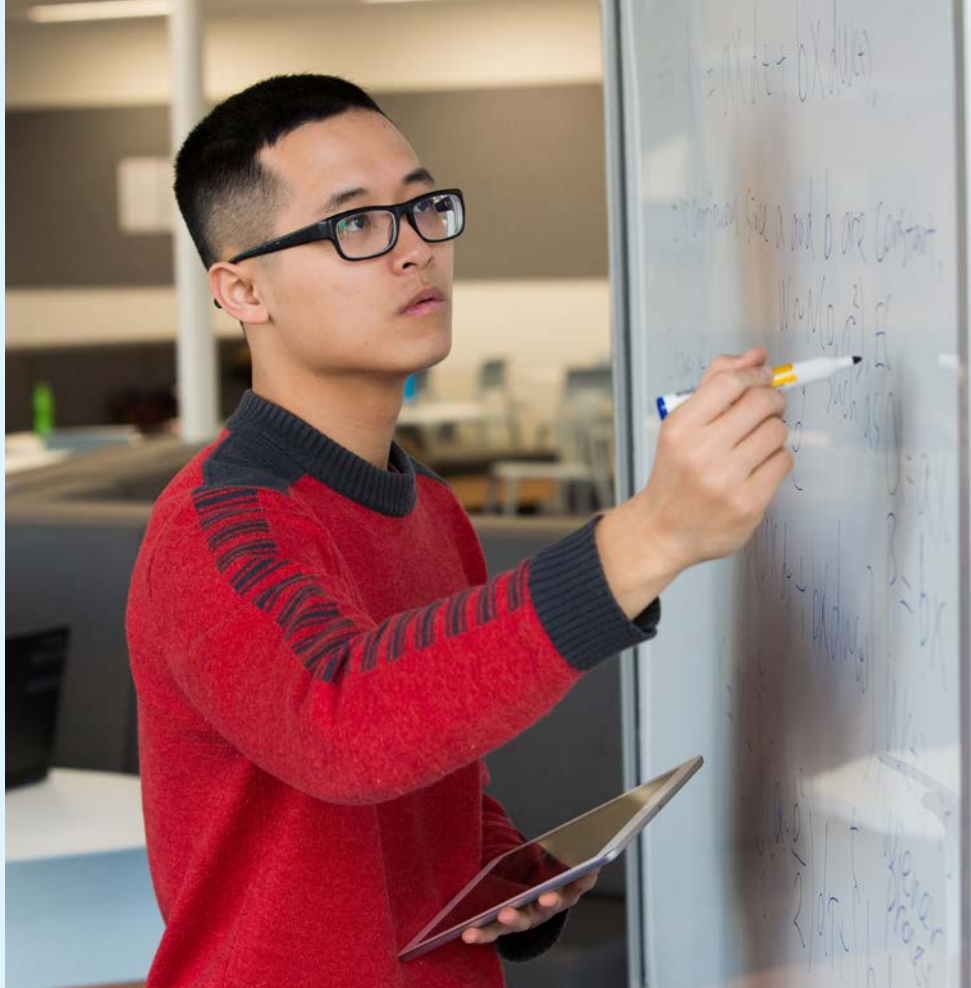
Postgraduate Diploma in Bioscience Enterprise (PGDipBioEnt)

Taught (120 points)

Full-time (1 year) or part-time (varies)

This inter-disciplinary programme blends the best of Science and Business to give science graduates the skills to move with confidence in the business world. You will gain skills in the financial, marketing and legal aspects of science to prepare you for a wide range of job opportunities in science and business enterprises. Networking opportunities abound for you to meet practitioners and leaders from industry and business.

www.science.auckland.ac.nz/pgdipbioent



Human, social and behavioural sciences

Postgraduate Diploma in Applied Psychology (PGDipAppPsych)

Taught (120 points)

Full-time (1 year)

This programme will prepare you for professional practice in the area of applied behaviour, analysis and industrial, work and organisational psychology. It draws on the interests and expertise of Psychology academic staff and you'll complete a supervised practicum that will allow you to apply your knowledge and skills in a real-world setting. The PGDipAppPsych has a prerequisite of a Masters in Psychology and experience in ABA, including the PGDip in ABA.

www.science.auckland.ac.nz/pgdip-app-psych

Doctor of Clinical Psychology (DClínPsy)

Doctoral research (360 points)

Full-time (3 years) or part-time

This professional postgraduate qualification combines original research and clinical practice to prepare you for a career as a clinical psychologist. Entry into the Clinical Psychology programme is by an application and interview process. Applicants must have an undergraduate degree in psychology, be a New Zealand or Australian citizen or permanent resident, and have relevant work experience (paid or voluntary).

www.science.auckland.ac.nz/d-clin-psy

Master of Speech Language Therapy Practice (MSLTPrac)

Taught (240 points)

Full-time (2 years) or part-time

Are you a graduate from a field such as psychology, linguistics, health sciences or education? This New Zealand Speech-language Therapy Association accredited qualification is designed to provide you with the necessary specialist skills and experience to practise as a speech-language therapist in New Zealand and overseas. You will study anatomy, physiology, linguistics, fluency, swallowing, learn to apply theory to clinical practice and carry out a research project.

www.science.auckland.ac.nz/mslt-prac

Chemical and physical sciences

Postgraduate Diploma in Forensic Science (PGDipForensic)

Taught (120 points)

Full-time (1 year) or part-time (varies)

This advanced qualification teaches students how to develop and apply scientific knowledge and skills to investigate crime and is designed for those who hold an undergraduate degree in science or technology related topics. From DNA analysis to the development of new molecules to aid in the visualisation of fingerprint residues, students will learn about forensic data, chemical analysis, forensic biology and the statistical treatment of forensic data.

www.science.auckland.ac.nz/pgdip-forensic

Mathematical and computational sciences

Master of Data Science (MDataSci)

Taught (180 or 240 points)

Full-time (varies) or part-time (varies)

Learn how to make decisions using measurable data-driven insights with the Master of Data Science. The ability to turn data into information, knowledge and innovative products is a skill in high demand within industry. You will gain a unique combination of skills in Data Science and be able to comprehend, process and manage data effectively to extract value from it.

www.science.auckland.ac.nz/mdats

Postgraduate Certificate in Information Technology (PGCertInfoTech)

Taught (60 points)

Full-time (half year) or part-time (varies)

Designed for students with a non ICT-related bachelor's degree, this qualification will teach you the specialist skills you need to kick-start your ICT career. This intensive programme offers a supercharged route into the ICT industry. You'll gain fundamental skills in software development, including up-to-date knowledge of object-oriented programming and design, web technologies and databases.

www.science.auckland.ac.nz/pg-cert-info-tech

Master of Information Technology (MInfoTech)

Taught (120, 180 or 240 points)

Full-time (varies) or part-time (varies)

The MInfoTech is designed to meet the demand for industry-ready ICT professionals who have the right mix of technological skills and business awareness. The depth of business enterprise and project-based learning sets the MInfoTech apart from other qualifications and includes a 10-week internship where you'll work on a real-world project.

www.science.auckland.ac.nz/info-tech

Postgraduate Diploma in Operations Research (PGDipOR)

Taught (120 points)

Full-time (1 year) or part-time (varies)

Rapid technological change has created an increasing range of applications for Operations Research. The PGDipOR meets industry needs by enabling students from a range of undergraduate backgrounds to gain the fundamental skills needed to become versatile practitioners. Core topics such as optimisation under uncertainty, searching techniques, financial statistics and computational algorithms are covered, showing the direct influence of the field.

www.science.auckland.ac.nz/pgdipor

Master of Operations Research (MOR)

Research (120 points)

Full-time (1 year) or part-time (varies)

In an age of rapid technological development, Operations Research is an essential field. Develop advanced quantitative skills that are increasingly in high demand and essential to business survival in today's economy. This research qualification develops your ability to solve problems, think critically, and adopt the fundamentals of the field: minimise risk, make organisations more effective, and ultimately, respond to ongoing demand in both public and private sectors.

www.science.auckland.ac.nz/mor

Master of Professional Studies (MProfStuds)

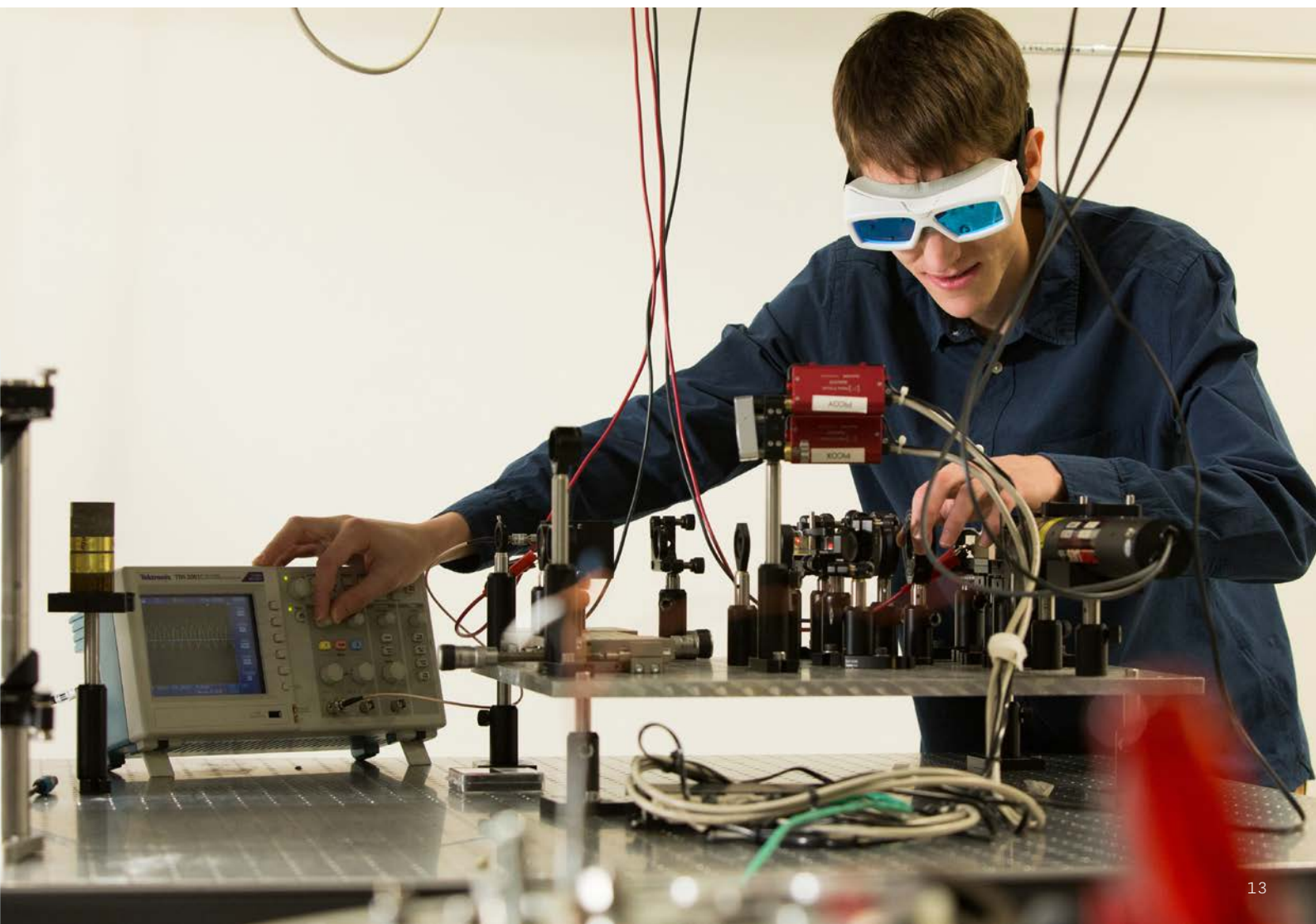
Specialisations available include Data Science, Digital Security and Mathematics Education (taught only).

Taught or research (120 points)

Full-time (1 year) or part-time (varies)

Review, inform and improve your knowledge and professional practice. The MProfStuds is a masters degree with a professional focus and can be a useful way of postgraduate study if you already have relevant industry experience or a masters degree.

www.science.auckland.ac.nz/mprofstuds



Admission to postgraduate programmes



Calculating your GPA/GPE

Grades or marks achieved at the University of Auckland are given a grade point average (GPA).

Grades or marks achieved at other institutions are given a grade point equivalent (GPE). Use our GPE Calculator for an indication of your GPE:

gpecalculator.auckland.ac.nz

English Language Requirements

The minimum requirement is an overall IELTS academic score of 6.5 with no band less than 6.0, or an approved equivalent. Some programmes require higher levels of English proficiency.

www.auckland.ac.nz/pg-english-reqs

Admission requirements

The Faculty of Science offers a wealth of postgraduate programmes suitable for students from various levels and academic backgrounds.

Entry into a BSc(Hons) degree

Extend the knowledge you gained in your undergraduate degree with a bachelors (honours) degree. Explore the area of interest from your undergraduate study in greater depth, develop research skills and give yourself the edge in the job market.

You must have completed an undergraduate degree at a recognised university (or similar) in a field relevant to your specialisation, typically with a GPA or GPE of 5.0. Some programmes may require higher scores.

Entry into a Postgraduate diploma

Postgraduate diplomas offer the opportunity to build on your major undergraduate subject. Some postgraduate diplomas provide specialised training and the opportunity for advancement in your profession.

You must have completed an undergraduate degree at a recognised university (or similar) in a field relevant to your specialisation, typically with a GPA or GPE of 3.0. Some programmes may require higher scores.

Entry into a Masters degree

We offer an extensive range of masters degrees to allow you to increase your knowledge in your subject, follow your passion for research or change career whilst gaining an advanced qualification.

While a taught masters will provide you with specialist training in your chosen field, a research masters will develop advanced research skills, working alongside Faculty of Science researchers – many of whom are major contributors in their field.

Some of our masters are available as 120-point (one year full-time), 180-point (18 months full-time) or 240-point (two years full-time) programmes, offering options for direct entry with a bachelors degree (to 180 and 240-point programmes) or a bachelors (honours) or postgraduate diploma (to 120-point programmes).

Entry into a doctoral programme

A doctoral degree gives you the freedom to follow your passion and undertake advanced research in your area of interest.

Acceptance to our doctoral programmes is based on academic merit. You must be able to demonstrate an ability to carry out independent research and have already completed a significant research project, dissertation or thesis, at university. If you have New Zealand postgraduate qualifications, you need to have completed a postgraduate bachelors (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.

If you have overseas qualifications, you will need to have completed a masters-level qualification in a field related to your doctoral studies. You must have a GPE of at least 5.5.

Bridging programmes

Students who have completed a bachelors degree but do not meet the requirements for entry into PGDipSci, or who wish to gain additional background in a different subject area from their qualifying degree, may apply to take a Graduate Diploma in Science, a Transitional Certificate or one or more courses under a Certificate of Proficiency:

www.science.auckland.ac.nz/graddipsci

www.science.auckland.ac.nz/certificate-of-proficiency

Additional information

- Check the University of Auckland Calendar for specific information about the regulations relating to the programme you're interested in: www.calendar.auckland.ac.nz
- Talk to a postgraduate adviser for specific information about what is required: www.auckland.ac.nz/pgadviser
- Minimum requirements listed here are the likely grades required and do not guarantee entry. We assess each application individually and applicants may require a higher grade to be offered a place. Some specialisations require higher grades: www.auckland.ac.nz/entry-requirements



"I have loved nature and rivers since I was a kid. I was three years old when I asked my grandmother 'how did the hills get there?' and by the time I was five I was telling everyone I was going to be a geographer when I grew up."

"I specialise in rivers because they are perhaps the most intriguing feature in New Zealand's dynamic landscape. Not only are rivers complex and beautiful, they have a deep importance in our culture."

"While the 2016 Kaikoura earthquake was devastating, it created unique opportunities for new and exciting studies. My research is based in the Hapuku River, a large gravel river just outside the Kaikoura township. Following the earthquake, a landslide dam formed at the top of the river and created a lake that posed a flood risk."

"Over the last few years the lake has drained and the dam has started to release pulses of coarse sediment downstream. As a result, the river bed levels have risen significantly. My research is focussed on assessing how the gravel sizes, organisation and river bed levels are changing over time to get a sense of how the pulse material will change the river's sedimentology."

"I enjoy being based in such an exciting and relevant field site, surrounded by other stimulating projects. I use state-of-the-art, high-resolution drone technology and Structure from Motion (SfM) modelling to assess these alterations. Understanding the sedimentology of my study site will help predict future adjustments in the river and inform management practices for geomorphic, habitat and hazard purposes in Kaikoura."

"I urge new researchers in the field of environmental science to pick study areas that fascinate them and questions that they are desperate to answer. Then your postgraduate research will become an amazing opportunity to fully immerse yourself in something that you love."

Charlotte Milne

Graduate: Master of Science in Geography and Bachelor of Science in Geography and Earth Sciences

Fees and funding



Employment during study

Advanced postgraduate students are often employed as tutors, laboratory demonstrators or teaching assistants for undergraduate courses. Tutoring is a great way to gain valuable professional and teaching experience during your masters or PhD study. Other opportunities include part-time research assisting, administrative duties or library work. There may be limits on allowable work hours (particularly for scholarship or international students), so you need to check any conditions that may apply. If you are working outside of the University to finance your study, it's important that you discuss your work commitments with your department's postgraduate adviser or your supervisor to ensure you can balance your workload realistically.

Fees

| Postgraduate programmes | Estimated annual tuition fees* |
|--------------------------------------------------|--------------------------------|
| Bachelor of Science (Honours) | \$8,164.80 - \$9,460.80 |
| Postgraduate diploma | \$8,164.80 - \$9,460.80 |
| Masters | \$8,164.80 - \$10,533.60 |
| Doctorate | \$7,250.40 |
| International students (sub-doctoral programmes) | \$42,813.60 |
| Interfaculty programmes | ** |

**Based on annual tuition fees for full-time study of 120 points. Tuition fees are indicative only and the fees for 2021 will be set at the end of 2020. All students will also pay a student services fee. As an indication, this fee is \$943.20 for students undertaking a full-time load of 120 points in 2020. Students taking fewer than 120 points pay proportionately lower fees.*

***Tuition fees will be charged at the respective rate for the subject.*

International students

New international PhD students will usually be accorded domestic status for the purposes of tuition fees.* University of Auckland Doctoral Scholarships are awarded to high-achieving international PhD applicants, and are guaranteed for those who meet GPA thresholds in their qualifying programme from a New Zealand university.

www.auckland.ac.nz/makethegrade
www.auckland.ac.nz/pg-international-tuition-fees

**Subject to supervisory and residency requirements.*

Postgraduate scholarships

Guaranteed postgraduate scholarships

The University offers guaranteed scholarships to domestically-qualified research students who meet grade point average (GPA) thresholds from their qualifying programme. As a high-achieving postgraduate research student, you could be eligible for:

- University of Auckland Postgraduate Honours/ PGDip Scholarships
- University of Auckland Research Masters Scholarships
- University of Auckland Doctoral Scholarships

Applicants for the Māori and Pacific scholarships can be studying toward either a taught or research programme:

- University of Auckland Māori Postgraduate Scholarships
- University of Auckland Pacific Postgraduate Scholarships
- University of Auckland Doctoral Scholarships

www.auckland.ac.nz/makethegrade

Summer Research Scholarships

Develop a taste for postgraduate research with a Summer Research Scholarship.

The Summer Research Scholarships are a great way to get some research experience over the summer months, boost your CV and prepare you for postgraduate study.

www.summer.ac.nz

Other postgraduate scholarships

In addition to guaranteed scholarships, the University offers a range of other postgraduate scholarships, awards and bursaries including:

- Universitas 21 Doctoral Mobility Scholarships
- Health Research Doctoral Scholarships
- Senior Health Research Scholarships
- Various subject-specific scholarships

Our Scholarships Office also provides access to a comprehensive database of external scholarships to give you information about the widest range of funding providers.

www.auckland.ac.nz/scholarships

Doctoral Funding

PreSS accounts

If you are a doctoral student undertaking supervised research, you're automatically entitled to research support funding through a University PreSS account for up to four years. You can use the money for costs such as attending conferences, research-related travel, accommodation and research consumables.

www.auckland.ac.nz/press-accounts

Student loans and allowances

Student loans and allowances are administered by StudyLink, a service of the Ministry of Social Development. For more information and publications, or to apply for a student loan or student allowance, call Studylink on 0800 88 99 00 or apply online at

www.studylink.govt.nz



"I enjoy programming, databases and also statistics, and wanted a field that would combine all three things that I loved. Data Science was a natural choice. I came to know that the University of Auckland was one of the best in the world for statistics during my search for data science programmes, so that also helped in choosing the course."

"Since graduation I have been working at EROAD as a Data Analyst/Business Intelligence Developer. One of my favourite parts of the job is dealing with massive amounts of data every day. The MProfStuds in Data Science taught me how to deal with big data and develop meaningful insights. However, being able to put what I have learned to use in everyday work has been the best part."

"A career highlight for me so far was the CEO of EROAD appreciating an analysis that I produced, and also seeing my work published as white papers."

"Career-wise I can see myself moving from a data analyst/business intelligence developer into a data scientist role. In the short term I'm working towards getting the AWS Big Data certification, but long term I want to get a PhD specialising in machine learning and database systems."

"I'm driven by a love for data, programming and solving problems. I hope to help people with the insights and analysis I create. Working for a company like EROAD – who are heavily invested in driver and road safety – means that my insights could help to save someone's life one day."

"The University environment was one of the highlights of my programme. I spent a lot of my time using the labs and resources. The professors were helpful for everything from choosing the courses to answering questions before the exam. They were there through the duration of the programme to guide and help."

Nishita Balamuralikrishna

Graduate: Master of Professional Studies
in Data Science

How to apply

We welcome applications from all students, including international students (those who are not citizens/permanent residents of New Zealand or citizens/permanent residents of Australia).

Before you apply

Postgraduate programmes

- Check the entry and English-language requirements:
www.auckland.ac.nz/pg-entry-requirements
www.auckland.ac.nz/pg-english-reqs
- Check the application closing dates:
www.auckland.ac.nz/pg-application-closing-dates

If you are applying for a 1-year masters with a research project, you will need to provide evidence that a member of academic staff has agreed to supervise you. See FindaThesis (www.findathesis.auckland.ac.nz), the research webpages for your area of interest or contact the postgraduate adviser for your programme/faculty for potential supervisor details.

www.auckland.ac.nz/pgadviser

PhD or named doctorate

- Check the entry and English-language requirements:
www.auckland.ac.nz/doctoral-entry-requirements
www.auckland.ac.nz/pg-english-reqs
- Identify a research area of interest and at least one potential supervisor. You can get information about current research and available projects in the Faculty of Science at:
www.science.auckland.ac.nz/our-research
www.science.auckland.ac.nz/pg-research
- Contact the doctoral advisor for your chosen study area using the information at:
www.science.auckland.ac.nz/pg-academic-advice

They will be able to advise about any special requirements for entry to the PhD programme in your study area and may be able to help you identify an appropriate supervisor.

- Unless you have already completed a degree at the University of Auckland, arrange for two referees to support your doctoral application. Doctoral referee reports must be submitted directly from your referees.

Ready to apply?

New to the University of Auckland or a former student?

1. Apply for admission online:
www.apply.auckland.ac.nz



Current student?

1. Make an Add/Change programme request online:
www.apply.auckland.ac.nz



2. You will receive an acknowledgement email listing the supporting documents we require, and a Student ID number for logging on to your Application for Admission. You can check your application status online and see what supporting documents you will need to provide. Your application will be assessed once we receive sufficient information (such as uploaded transcripts, other academic results, references or a portfolio) or you have attended an interview.



3. We will assess your application and inform you of the outcome via email. The status will show on the 'Your applications' section of the Application for Admission.



4. Accept (or decline) your offer online. If you have a conditional offer,* you should accept your offer straight away. There is no need to wait to meet the conditions before accepting your offer. We encourage you to submit the required information to meet the conditions as soon as you are able: www.apply.auckland.ac.nz.



5. Enrol in your courses, the postgraduate enrolment process is faculty-specific: www.auckland.ac.nz/pgenrolment

Need help applying?

www.askauckland.ac.nz

Email: postgradinfo@auckland.ac.nz

Phone: 0800 61 62 65

Find a postgraduate adviser:

www.auckland.ac.nz/pgadviser

*Conditional offers

Conditional offers are made when your place in a programme is subject to one or more conditions. For example, you may need to supply final results or complete a prerequisite course.

When you receive a conditional offer:

1. Accept (or decline) the offer.
2. Meet the conditions.
3. Submit evidence that you have met the conditions.

International applicants

Read the entry requirements for non-doctoral programmes for international applications:

www.auckland.ac.nz/is-pg-entry-requirements

We recommend you apply as early as possible to allow sufficient time to apply for visas.

We have a number of official agents and overseas representatives who can help you with the application process in person: www.auckland.ac.nz/overseasrep

Find out more

Student life

Postgraduate Students' Association

We run social and academic events such as the postgraduate orientation, writing retreats, faculty events, outdoor adventures and trips, and end-of-semester parties.

www.uoapgsa.org

The Science Students' Association

We want our science students to feel fully supported and strive to achieve their potential during their time at the university, and beyond. To do this, we run a range of social and academic events to engage both our undergraduate and postgraduate students and staff from the Faculty of Science.

facebook.com/ScienceStudentsAssociation

Postgraduate newsletter

The postgraduate newsletter will keep you informed about current news, events and information.

www.auckland.ac.nz/pg-newsletter

Information for international students

The Education (Pastoral Care of International Students) Code of Practice

The University of Auckland has agreed to observe and be bound by the *Education (Pastoral Care of International Students) Code of Practice*.

www.nzqa.govt.nz/the-code

Student visas

You must apply for a student visa to cover the period you intend to study in New Zealand. You will be required to show evidence you have been accepted into a programme, have paid your tuition fees and have sufficient funds to cover your costs while in New Zealand. Full details, including eligibility for work rights, are available through Immigration New Zealand at

www.immigration.govt.nz

Medical and travel insurance

All international students are required to have appropriate medical and travel insurance. The University of Auckland offers a scheme that meets these requirements. You will receive details of the scheme with your Offer of Admission from the University.

www.auckland.ac.nz/is-insurance

Disclaimer

Although every reasonable effort is made to ensure accuracy, the information in this document is provided as a general guide for students 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.

Useful web addresses

Faculty of Science

www.science.auckland.ac.nz

Faculty of Science Student Centre

www.science.auckland.ac.nz/student-centre

University of Auckland

www.auckland.ac.nz

University of Auckland Calendar

www.auckland.ac.nz/calendar

Information for postgraduate students

www.postgraduate.ac.nz

Academic dates

www.auckland.ac.nz/dates

Apply for postgraduate study

www.auckland.ac.nz/applynow

AskAuckland

www.askauckland.ac.nz

Career Development and Employability Services

www.cdes.auckland.ac.nz

Centre for Learning and Research in Higher Education

www.clear.auckland.ac.nz

Childcare

www.auckland.ac.nz/childcare

Current postgraduate students

www.postgrad.auckland.ac.nz

Disability Services

www.disability.auckland.ac.nz

Doctoral Skills Programme

www.auckland.ac.nz/doctoralskills

Health Services

www.auckland.ac.nz/healthservices

International students

www.international.auckland.ac.nz

Libraries and Learning Services

www.library.auckland.ac.nz

Māori student support

www.auckland.ac.nz/maoristudents

Pacific student support

www.auckland.ac.nz/pacificstudents

School of Graduate Studies

www.auckland.ac.nz/school-of-graduate-studies

FACEBOOK



Like us on Facebook

www.facebook.com/science.uoa

TWITTER



Follow us on Twitter

twitter.com/ScienceUoA

YOUTUBE



Watch us on YouTube

www.youtube.com/UniofAuckland

INSTAGRAM



#universityofauckland

Follow us on Instagram

@universityofauckland



Student Information Centre

Level G, Room G 20
(beside the entrance to the Large Chem
Lecture Theatre)
Building 301, 23 Symonds Street
Auckland 1010

Phone: 0800 61 62 65

Open: Monday to Friday 9am–4.30pm

Email: pgscience@auckland.ac.nz

Web: www.science.auckland.ac.nz

Questions: www.askauckland.ac.nz

International Office

The University of Auckland
Private Bag 92019
Alfred Nathan House
24 Princes Street
Auckland 1142
New Zealand

Email: int-questions@auckland.ac.nz

Web: www.international.auckland.ac.nz



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