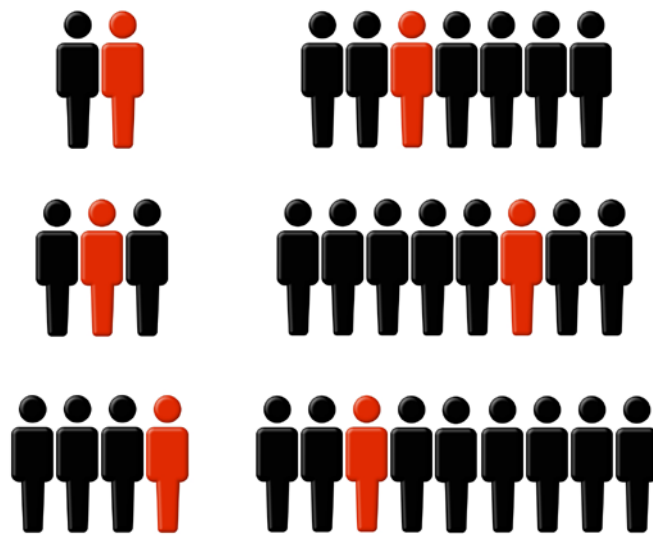


# What can I do with a degree in Statistics?

# Statistics.



## Career planning: what do I need to know?

Knowledge of yourself is important for career decision making. Start by looking at your personal goals, abilities, values and interests to explore study and career options that are relevant to you. Some of these may change over time, so it is important to self-reflect and evaluate your career on an ongoing basis.

### What do employers look for?

Many employers look for generic skills such as communication, customer-focus, bicultural competence, cultural awareness and teamwork. With technology and globalisation changing the nature of society, skills such as resilience, problem solving and adaptability are valuable at work as well as in life.

### How can I develop these skills?

- Some skills are developed through your degree

- Extra-curricular activities can help, for example getting involved in clubs, mentoring, cultural groups, part-time work or volunteering
- Be open to professional and personal development opportunities. Whether it is undertaking an internship, overseas exchange, skills seminar, or joining an industry group — these activities will enhance your employability.

### What else should I know?

The career options in this brochure are examples only and the list is not exhaustive. Some careers may require further study beyond a first degree or additional work experience. Some pathways and degrees have a recommended school background.

Find more subject details at  
[www.canterbury.ac.nz/subjects/stats](http://www.canterbury.ac.nz/subjects/stats)

If this brochure does not answer your questions, talking to an expert such as a career consultant can help you to identify the next steps in your career decision making journey.

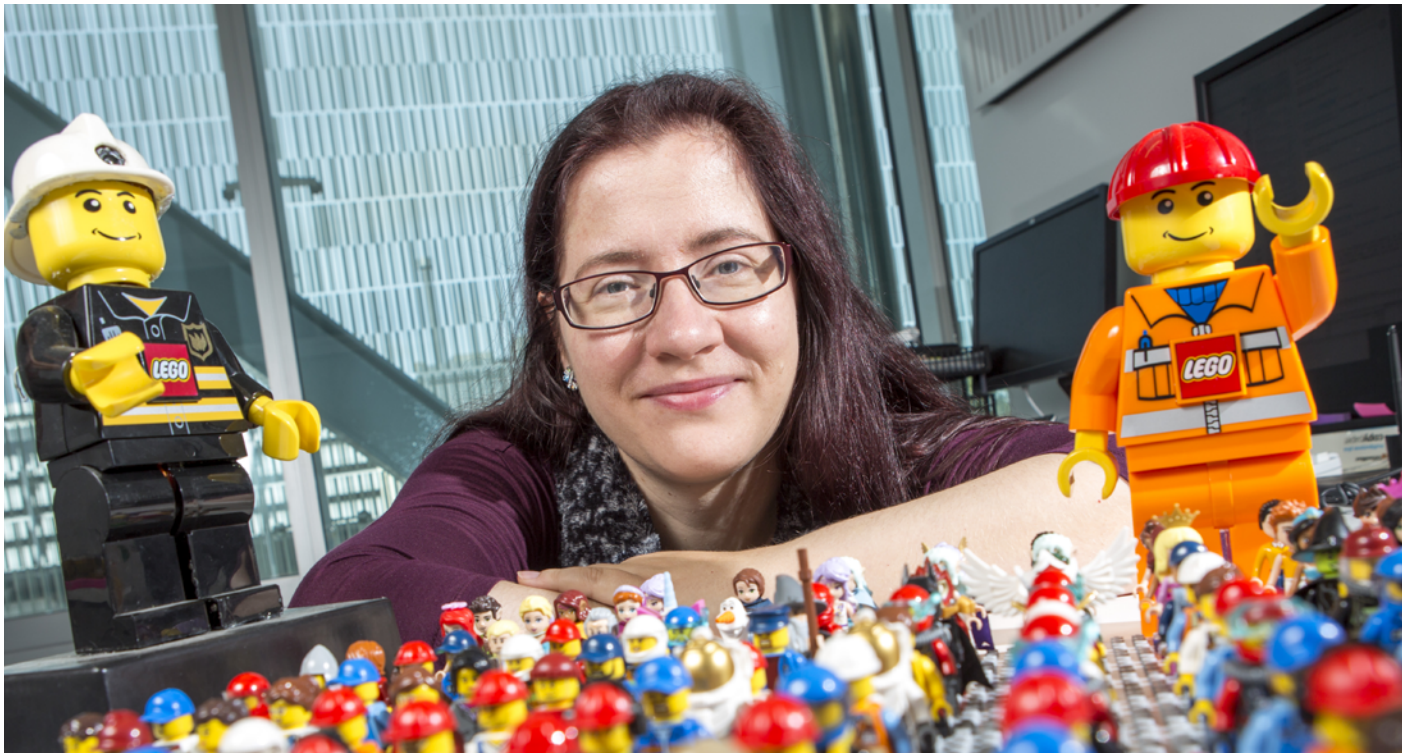
[www.canterbury.ac.nz/careers](http://www.canterbury.ac.nz/careers)

## What is Statistics?

We are increasingly becoming a data-driven society with advances in technology and the accumulation of massive data in many fields. Statistics is the profession associated with making meaningful sense of data.

Statistics can be used to answer some very important scientific, social and commercial questions such as: How can we monitor the decline rate in endangered animals? What is the impact of government policy on education? How long does mechanical equipment last before it needs repairing? Does group therapy reduce the chance of reoffending?

Statistics is a rapidly advancing science with many avenues open for study and work, from statistical theory to its application in biology, medicine, the social sciences, engineering, physics and economics. There are few disciplines that do not use statistics in some form.



## AT A GLANCE

2nd

is the rank for statistician, out of 200 jobs for good work environment, income, stress levels and projected growth<sup>†</sup>

1155

people were employed by Statistics New Zealand in the year ending June 2020<sup>\*</sup>

86%

of statistics graduates were in their ideal employment or working in a step in the right direction<sup>\*\*</sup>

## What skills have UC graduates gained?

Statistics graduates develop a valuable set of skills that includes:

- Logical and quantitative thinking
- Critical evaluation
- Practical application of statistics in problem solving
- Numerical confidence
- Computing skills
- Collection and analysis of data
- Interpretive and analytical thinking
- Ability to deal with abstract concepts.

Opportunities to apply your learning outside the classroom are available in this subject, through internships and consulting projects. These experiences deepen your skillset, awareness of others, working knowledge, and employability.

## Where have UC graduates been employed?

While many are employed by Statistics New Zealand, graduates enjoy a wide variety of destinations. For example, in Aotearoa New Zealand Statistics alumni have been hired by:

- Government bodies eg, Statistics New Zealand, The Treasury, Ministry of Justice, Productivity Commission, Gisborne District Council

- Market research eg, Buzz Channel, Research First, Nielsen, Colmar Brunton
- Data science eg, Harmonics Analytics, Plexure
- Transport and tourism eg, Air New Zealand, Parking and Traffic Management Solutions, Tourism New Zealand, AA
- Health eg, HealthAlliance, Compass Health, Waitemata District Health Board, Ryman Healthcare
- Not-for-profits eg, World Vision NZ, Givealittle, Pasifika Futures
- Financial and professional services eg, EY, NZX Limited, KPMG, Optiver Australia, IMC Financial Markets, FNZ, Mercer, KVB Kunlan, Accenture
- Software and technology eg, Xero, Atlassian, Orion Health, Tenzing Management and Technology Consultants, Fulcrum
- Banking sector eg, ANZ, BNZ, Westpac, Heartland Bank
- Manufacturing eg, Ford Motor Company, Tegel, Fonterra
- Research eg, ForwardHQ, Landcare Research, Plant and Food Research
- Insurance eg, Suncorp Group, IAG, AA Insurance, Sovereign
- Education eg, New Zealand Institute of Studies, University of Auckland.

<sup>†</sup> 2019 CareerCast.com Jobs Rated report

<sup>\*</sup> Statistics New Zealand Annual Report 2020

<sup>\*\*</sup> 2017, 2018, 2019 Graduate Destination Survey results combined

## What jobs and activities do graduates do?

Statisticians are in demand due to the explosion of data availability and the desire to extract insight from it. See some examples of these, and other jobs below.

*Note: Some of the jobs listed may require postgraduate study. See the 'Further study' section.*

### Statistician

- Designs data collection methods
- Uses statistical techniques to predict trends
- Presents graphs and charts of data

### Biostatistician

- Applies statistics to health and public health
- Analyses data that relates to medical problems
- Advises on data collection methodology

### Biometrician

- Uses statistical models to analyse biological data
- Advises on experimental design, data collection, analysis and presentation
- Trains and supports other staff in biometrics

### Investment analyst

- Does fundamental analysis for securities
- Provides buy or sell recommendations

### Secondary school teacher

- Plans and delivers instructional lessons
- Evaluates performance and provides feedback
- Sets and marks tests and assessments

### Research analyst / associate

- Coordinates organisational research
- Uses mathematical modelling and computer software to improve operations, sales etc

### Statistical methodologist / analyst

- Plans, designs and tests data collection methods
- Analyses information to find patterns
- Draws conclusions and writes reports

### Actuary, actuarial analyst

- Assesses the likelihood of an event occurring
- Looks at past trends to predict future outcomes
- Explains implications eg, possible costs

### Data scientist / analyst

- Analyses past and current data to glean insight
- Models techniques and makes predictions
- Links IT experts and business analysts

### Risk surveyor / analyst

- Identifies and mitigates strategic, operational and other (eg, credit or regulatory) risks
- Manages relevant policies and procedures
- Oversees staff engagement and compliance

### Entrepreneur & self-employment

Entrepreneurship and innovation are an increasing part of the working landscape. Through generating a business idea, or getting involved in a start-up/business venture, you have the potential to create a work opportunity that aligns with your knowledge, skills, values and risk profile. To get started on how to establish, run and grow a new business, go to Te Pokapū Rakahinonga, Centre for Entrepreneurship at the University of Canterbury [www.canterbury.ac.nz/uce](http://www.canterbury.ac.nz/uce)

## What professional organisations can I engage with?

Connecting with professional bodies and organisations can help you to establish professional networks and learn more about different career options in your area of interest. Gaining valuable insight into a profession can assist in making informed career decisions.

- New Zealand Statistical Association  
[www.stats.org.nz](http://www.stats.org.nz)
- Te Rōpū Kaiako Pāngarau o Aotearoa New Zealand Mathematical Society  
[www.nzmathsoc.org.nz](http://www.nzmathsoc.org.nz)
- New Zealand Society of Actuaries  
[www.actuaries.org.nz](http://www.actuaries.org.nz)
- New Zealand Association of Maths Teachers  
[www.nzamt.org.nz](http://www.nzamt.org.nz)
- Royal Statistical Society  
[www.rss.org.uk](http://www.rss.org.uk)

Having a professional presence on social media networks such as LinkedIn and Facebook can help you to keep up to date with important industry developments and trends, networking opportunities, events and job vacancies. Following relevant professional bodies, organisations, companies and thought leaders is a great way to gain a deeper awareness of the industries that interest you. Social media presents an opportunity to build and enhance networks as well as to display your involvement in projects and any academic successes.

## Why do further study and what are my options?

Postgraduate study can facilitate career benefits such as specialist skills, entry into a specific occupation, higher starting salary, faster progression rate, and advanced research capability. It is important to determine which, if any, further study will help you.

UC offers postgraduate study in Statistics from honours through to PhD level, which allows more opportunities for independent research. Advanced study can also lead to an academic career.

Some Statistics graduates undertake additional training in subjects such as management or teaching.

For UC qualification listings visit [www.canterbury.ac.nz/courses](http://www.canterbury.ac.nz/courses)

## Useful links

- Te Rōpū Rapuara | UC Careers  
[www.canterbury.ac.nz/careers](http://www.canterbury.ac.nz/careers)
- Careers New Zealand  
[www.careers.govt.nz](http://www.careers.govt.nz)
- Tatauranga Aotearoa Stats NZ  
[www.stats.govt.nz](http://www.stats.govt.nz)





## Amanda



Bachelor of Science in Statistics  
Bachelor of Science with Honours in  
Statistics  
Principal Analyst, Worksafe New Zealand |  
Mahi Haumarū Aotearoa

### Why did Statistics appeal to you as a career?

I was interested in Statistics from high school and I ended up taking the paper by chance. I really liked the real-world applications and how Statistics can be used to improve people's lives. It is an excellent area of study to choose, either as a major or as a minor with another subject. The ability to be data savvy is becoming more and more important in today's economy and it is an area where skilled people are in high demand.

### What drew you to UC to study Statistics?

UC has one of the best Mathematics and Statistics Departments in New Zealand. I enjoyed the support of the staff at UC; the tutors, senior tutors, and lecturers were really supportive and talented in their fields. I am still in touch with many of my lecturers today. I also enjoyed the range of subjects and interest areas I was able to study and the clubs on campus gave me a great outlet for my interests.

### How has your degree helped you in your work?

My study prepared me well for the vast array of different issues I would be faced with; no two days are the same. I get to use modelling techniques on a day-to-day basis and implement these in critical parts of the business. It also prepared me for working with lots of different people, different ages, different experience, and how to manage both up and down in an organisation. I love that my work is making a difference to people's lives.

### Read more online

Read more stories about our students' university experiences online. UC alumni make a difference in varied ways around the globe. To find out where graduates are now visit [www.canterbury.ac.nz/getstarted/whyuc/student-profiles](http://www.canterbury.ac.nz/getstarted/whyuc/student-profiles)

*The information in this brochure was correct at the time of print but is subject to change.*

## More information

### UC students seeking study advice.

Te Kura Pāngarau | School of Mathematics and Statistics

The School is made up of specialists in data science, financial engineering, mathematics, and statistics. Courses within the School are able to be studied alongside other subjects and staff invite students to come and discuss their study programme and goals.

T: +64 3 369 2233

E: [enquiries@math.canterbury.ac.nz](mailto:enquiries@math.canterbury.ac.nz)

[www.canterbury.ac.nz/engineering/schools/mathematics-statistics](http://www.canterbury.ac.nz/engineering/schools/mathematics-statistics)

### Anyone seeking careers advice.

Te Rōpū Rapuara | UC Careers

UC offers intending and current students and recent graduates a wide range of services, including individual career guidance, seminars, career resources and student and graduate employment opportunities.

T: +64 3 369 0303

E: [careers@canterbury.ac.nz](mailto:careers@canterbury.ac.nz)

[www.canterbury.ac.nz/careers](http://www.canterbury.ac.nz/careers)

### Prospective students seeking study advice.

Te Rōpū Takawaenga | Student Liaison

The liaison team provide advice to future students who are starting their degree for the first time. They can assist with information on degrees, scholarships, accommodation, and other aspects of university life. We have offices in Christchurch, Auckland and Wellington.

Ōtautahi | Christchurch

T: 0800 VARSITY (0800 827 748)

E: [liaison@canterbury.ac.nz](mailto:liaison@canterbury.ac.nz)

Tāmaki Makaurau | Auckland

T: 0800 UCAUCK

E: [auckland@canterbury.ac.nz](mailto:auckland@canterbury.ac.nz)

Te Whanganui-a-Tara | Wellington

T: 0800 VARSITY (0800 827 748)

E: [wellington@canterbury.ac.nz](mailto:wellington@canterbury.ac.nz)

[www.canterbury.ac.nz/liaison](http://www.canterbury.ac.nz/liaison)

