2016
Actuarial Science
School of Mathematics, Statistics and Operations Research
School of Economics and Finance
WHAT IS ACTUARIAL SCIENCE?

We live in a world in which we are increasingly conscious of risk, whether from natural hazards such as earthquakes and storms, personal factors relating to health, disease and lifestyle, or uncertainty in financial markets, investments and asset management. Therefore, the need to analyse, forecast and manage risk is ever more important. Actuarial Science concerns the models and methods for undertaking this analysis, which come primarily from economics and finance, mathematics and statistics. The profession is increasingly involved in understanding and evaluating risks associated with global climate change and social inequity.

Professional actuaries can earn up to $200K pa, trainee actuaries up to $90K and a newly qualified actuary up to $120K. Traditionally employed in superannuation, insurance and banking, there is now growing demand for actuaries across a diverse range of activities such as management consultancy, investment, finance and stockbroking as well as in government, education, health and software development.

Actuarial positions typically require a high level of mathematical and computational skills, a sound knowledge of finance and investment, an understanding of accountancy and professional standards, good communication skills and an ability to combine attention to detail with a view of the big picture.

Undergraduate study

Victoria University of Wellington, located in the vibrant and friendly capital city of New Zealand, offers Actuarial Science as an undergraduate major, available in both the Bachelor of Science (BSc) and Bachelor of Commerce (BCom) degrees.

Graduates will be well prepared to become qualified actuaries and will gain valuable connections with the actuarial profession. Alternatively, there will be a wide range of risk management situations open to them.

The programme integrates the components of actuarial science across courses in the Schools of Mathematics, Statistics and Operations Research and Economics and Finance. It culminates in the capstone course ACTS 301, which brings together essential professional and technical aspects. Throughout the programme, students will have the opportunity to hear from, and meet, leading members of the profession and develop links with potential employers.
PROGRAMME OF STUDY

The BSc and BCom degrees are both three-year full-time programmes requiring 360 points of study. They may also be taken part time over a longer period or combined with other degrees. Students may consider taking Actuarial Science alongside a second major or a minor in Economics, Finance, Mathematics or Statistics.

The Actuarial Science major requirements are the same in both degrees and include some options at higher level.

100-level courses

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<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>ACCY 111</td>
<td>Accounting</td>
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<tr>
<td>ECON 130</td>
<td>Microeconomic Principles</td>
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<tr>
<td>ECON 141</td>
<td>Macroeconomic Principles</td>
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<tr>
<td>MATH 142</td>
<td>Calculus 1B</td>
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<tr>
<td>MATH 151</td>
<td>Algebra</td>
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<td>MATH 177</td>
<td>Probability and Decision Modelling</td>
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200-level courses

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<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>ECON 201</td>
<td>Intermediate Microeconomics</td>
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<tr>
<td>FINA 201</td>
<td>Introduction to Corporate Finance</td>
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<tr>
<td>FINA 202</td>
<td>Introduction to Investments</td>
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<tr>
<td>MATH 277</td>
<td>Mathematical Statistics</td>
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300-level courses

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<th>Course</th>
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<tbody>
<tr>
<td>ACTS 301</td>
<td>Actuarial Science</td>
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<tr>
<td>FINA 306</td>
<td>Financial Economics</td>
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<tr>
<td>or FINA 307</td>
<td>Risk Management and Insurance</td>
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<tr>
<td>STAT 335</td>
<td>Statistical Models for Actuarial Science</td>
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and at least one further course from: ECON 301, 314, 339, FINA 306, 307, 308, MATH 377, STAT 332, 393

All other courses in the degree are elective but students are required to meet the overall requirements of either the BSc or BCom.
SCHOOL OF MATHEMATICS, STATISTICS AND OPERATIONS RESEARCH

We are a collaborative and dynamic unit of about 30 academics, many postgraduate students and a large body of undergraduates studying across a wide range of subjects that have a quantitative basis. Part of the Faculty of Science, the School’s teaching and research are highly regarded by current students, alumni and the research community, attracting national and international grant funding and recognition through awards, invitations and fellowship of professional organisations.

SCHOOL OF ECONOMICS AND FINANCE

As part of Victoria Business School, we are recognised as one of the leading centres for teaching and research in economics and finance in Australasia. We currently have about 30 academic staff, whose teaching and research has generated an impressive record of research articles in leading academic and professional journals, books, reports and theses.

VICTORIA UNIVERSITY

Victoria University of Wellington is New Zealand’s top-ranked university for research quality, with a proud tradition of academic excellence that is highly regarded all over the world. Our four campuses are centrally located in Wellington—a compact, cosmopolitan capital city by the sea with diverse social and cultural activities. Students benefit from our proximity to government, business and research institutes, enabling collaborations with a wide variety of organisations, and the opportunity to work on relevant, real-world problems.
ADMISSION CRITERIA

Victoria offers a guarantee of acceptance for most applicants in their undergraduate programmes of choice.

Go to www.victoria.ac.nz/admissions to find out more.

The Actuarial Science major requires a strong mathematics background. In particular, the first-year mathematics courses require passes in NCEA Level 3 achievement standards in differentiation, integration and at least one of trigonometry or complex numbers. Two of these three should be with Merit or Excellence. Equivalent achievement in other qualifications is accepted.

WORKLOAD

Full-time students can expect their overall workload, including classes, to be about 40 hours per week.

HOW TO APPLY

Domestic students may apply for entry to the programme online. Go to www.victoria.ac.nz/enrol to find out more.

International students will need to apply through Victoria International (see following page).
INTERNATIONAL STUDENTS

Students come to study at Victoria from all over the world—3,000 international students from more than 100 countries enrich the student population. There are many international communities in the city, and the University runs an International Buddy Programme to provide ongoing advice and support to new international students as they settle into life in Wellington.

Victoria International

Victoria International looks after the needs and welfare of international students, provides support and advice, and will meet students at the airport and then introduce them to Victoria and Wellington.

Victoria International runs an orientation programme one or two weeks before the beginning of each trimester. This includes a tour of Wellington and an introduction to Kiwi culture.

Study to work

Students who have completed a qualification in New Zealand may be eligible for a Graduate Job Search Work Visa for a maximum of 12 months. After finding a job, they can apply for a further visa for up to two or three years under the Study to Work category.

Application procedure

International students should apply through Victoria International. Go to www.victoria.ac.nz/international for more information.

Successful applicants will be advised of all subsequent procedures, such as obtaining a student visa. Information is also available from New Zealand diplomatic or trade offices.
Competence in English

When applying for the Actuarial Science programme, students will need to provide evidence of a high level of English language.

If your first language is not English, you must show evidence of competence in English by taking a recognised test of English language proficiency—IELTS overall band of 6.5, no sub-score below 6 or TOEFL 90 on the internet-based test, with at least 20 in writing. If you need to study English before beginning the programme, it is highly recommended that you attend the 12-week English Proficiency Programme at Victoria’s English Language Institute. You can join the programme at different times of the year (March, July, November).

Useful links

About Wellington: [www.WellingtonNZ.com](http://www.WellingtonNZ.com)

About New Zealand: [www.newzealand.com](http://www.newzealand.com)

Future students at Victoria: [www.victoria.ac.nz/study](http://www.victoria.ac.nz/study)

Immigration: [www.immigration.govt.nz](http://www.immigration.govt.nz)

English Proficiency Programme: [www.victoria.ac.nz/lals](http://www.victoria.ac.nz/lals)
To find out more about the Actuarial Science programme contact:

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For general information contact:

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Email sef@vuw.ac.nz
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