Contents

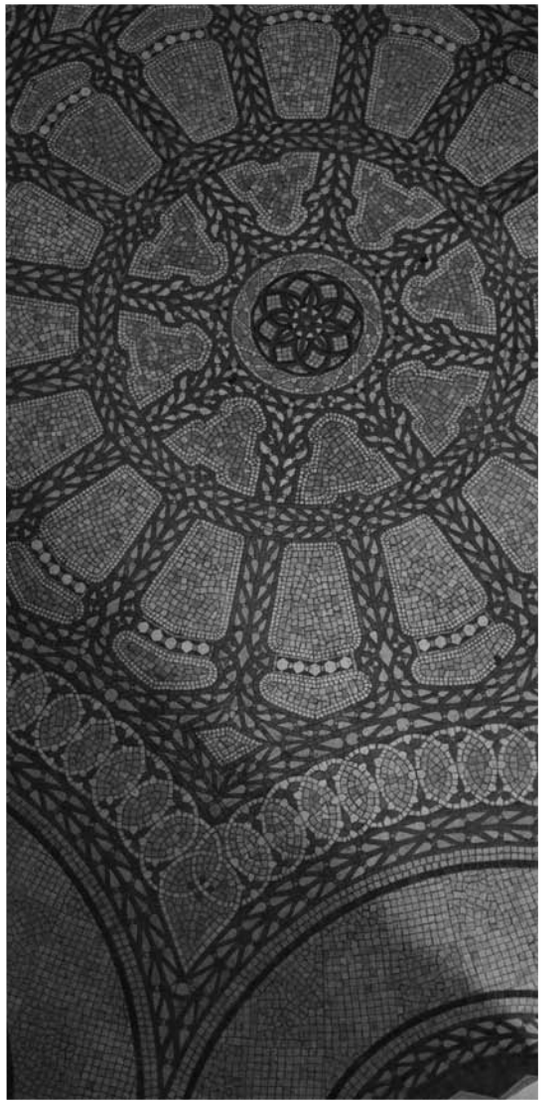
On the cover: Operations Research

Moving forward is about finding the best route. Commuting affects thousands of Kiwis daily and everyone has the same goal – to get to their destination the quickest way possible. So what's best – choosing a route that's quickest for the individual, or choosing a route that minimises the overall delay for everyone? What would you do?
*– **Heti Afimemounga** (right)*

Queueing is never fun – and sometimes it is difficult to make the right decision to minimise it! I'm working on algorithms of finding the best decision for users in various queueing situations – but particularly when travelling.
*– **Lisa Chen** (left)*

Lisa Chen and Heti Afimemounga are PhD students in Statistics.

Welcome



Hi,

I'm Chris Triggs, Head of the Department of Statistics. Whether you are just toying with the possibility of taking a statistics course or two, perhaps just for General Education, or going for broke and majoring in the subject, this booklet was designed with you in mind. You will be in good company. Nearly two out of every three students coming to The University of Auckland put at least one statistics course in their undergraduate degree. If you need assistance with course advice, please drop by our Departmental Office, Room 203 of the Science Centre, Building 303 at 38 Princes St. Our staff will direct you to an appropriate advisor.

We hope to see you in 2010!

All the best,

Chris Triggs

Most of our information is online at
The Department of Statistics homepage:
www.stat.auckland.ac.nz

Important dates

Academic year 2010	
Summer School – 2010	
Lectures begin	Tuesday 5 January
Auckland Anniversary Day	Monday 1 February
Deadline to withdraw from summer school courses	1 week before the end of lectures
Waitangi Day	Saturday 6 February
Lectures end	Friday 12 February
Study break/exams*	Monday 15 February - Wednesday 17 February
Summer School ends	Wednesday 17 February
Semester One – 2010	
Semester One begins	Monday 1 March
Mid-semester break/Easter	Friday 2 April - Saturday 17 April
ANZAC Day	Sunday 25 April
Graduation	Thursday 29 April - Friday 7 May
Deadline to withdraw from first semester courses	3 weeks before the end of lectures
Lectures end	Saturday 5 June
Study break/exams*	Saturday 5 June - Monday 28 June
Queen's Birthday	Monday 7 June
Semester One ends	Monday 28 June
Inter-semester break	Tuesday 29 June - Saturday 17 July
Semester Two – 2010	
Semester Two begins	Monday 19 July
Mid-semester break	Monday 30 August - Saturday 11 September
Graduation	Tuesday 21 September and Thursday 23 September
Deadline to withdraw from second semester courses	3 weeks before the end of lectures
Lectures end	Saturday 23 October
Study break/exams*	Saturday 23 October - Monday 15 November
Labour Day	Monday 25 October
Semester Two ends	Monday 15 November
Semester One – 2011	
Semester One begins	Monday 28 February 2011

Closing dates for applications for admission in 2010	
1 December 2009	Deadline for new students to submit Application for Admission if 2010 programme includes Summer School courses. Application for Admission also closes 1 December for all students applying to Sport and Exercise Science and Optometry.
8 December 2009	Deadline for new students to submit Application for Admission if 2010 programme includes Semester One and Semester Two courses only. If you are a new student, only one Application for Admission is required. This form is due on either 1 December or 8 December, depending on whether you want to take Summer School courses as well. Applications received after these dates may be accepted if there are places available.

Information from the Department of Statistics

Introduction

Statistics ... the most important science in the whole world: for upon it depends the practical application of every other science and of every art; the one science essential to all political and social administration, all education, all organisation based upon experience, for it only gives the results of our experience.

- Florence Nightingale

Statistical Thinking will one day be as necessary for efficient citizenship as the ability to read and write.

- H.G. Wells

Who needs statistics in the 21st century? Anyone who wants to be able to look critically at numerical information and not be misled. Anyone who has problems to solve, problems they won't be able to solve until they find out a little more about the world and how it operates. Such problems include finding ways to make a business more profitable right through to improving living standards and fighting cancer. Investigative questioning, designing ways to collect data to answer those questions, collecting data, and making sense of what that data says to produce reliable answers, this is the subject matter of statistics.

Internet-Age Statisticians

We live in an information age. Computers allow us to collect and store information in quantities that previously would not even have been dreamed of. What is this information? It might be costs, values, sales volumes, measurements, ratings, distances, prices, percentages, counts, times, or market shares. But raw, undigested data stored on computer disks is of no use until we can start to make sense of it. Statistics is the human side of the computer revolution, an information science, the art and science of extracting meaning from seemingly incomprehensible data. In your future life and career, you will need to be able to make good use of such information to make sound decisions.

Statistics applies to almost any field. This is what makes the study and practice of statistics so exciting. In one week, a practising statistician may help to design an experiment to evaluate the effects of a new treatment for a disease, analyse a set of data gathered by an ecologist, and help a freight carrier to study work processes to find ways of making the company more profitable.

Many career paths

More students at The University of Auckland study Stage 1 statistics than any other subject. It is taken by two out of every three students who come to this university. Few students start out intending to be statisticians. However, many see statistics as an ideal complement to their main area of interest. Some look forward to including statistics as part of their degree, while others are required to take statistics because it is compulsory for some very popular university programmes.

Excellence in teaching

The Department of Statistics is student centered, a leader in new teaching methods and technologies and unique in having won two national awards for undergraduate teaching.

Careers in Statistics

For Today's Graduate, Just One Word: Statistics

- The New York Times, August 6, 2009

Graduates with good quantitative skills are in high demand throughout the world. Our graduates are employed in the finance industry, in market research, in pharmaceutical companies and medical research, manufacturing and industry, in universities as academics/researchers, and local and national government departments and institutions (e.g. Treasury, Statistics New Zealand, AgResearch, MAFTech).

There are excellent career prospects for graduates who combine a major in Statistics with other subjects in Business, Science or Arts. For course advice on conjoint degrees including Statistics (BSc/BCom and BA/BCom), see our online handbook at www.stat.auckland.ac.nz/conjointhb.php.

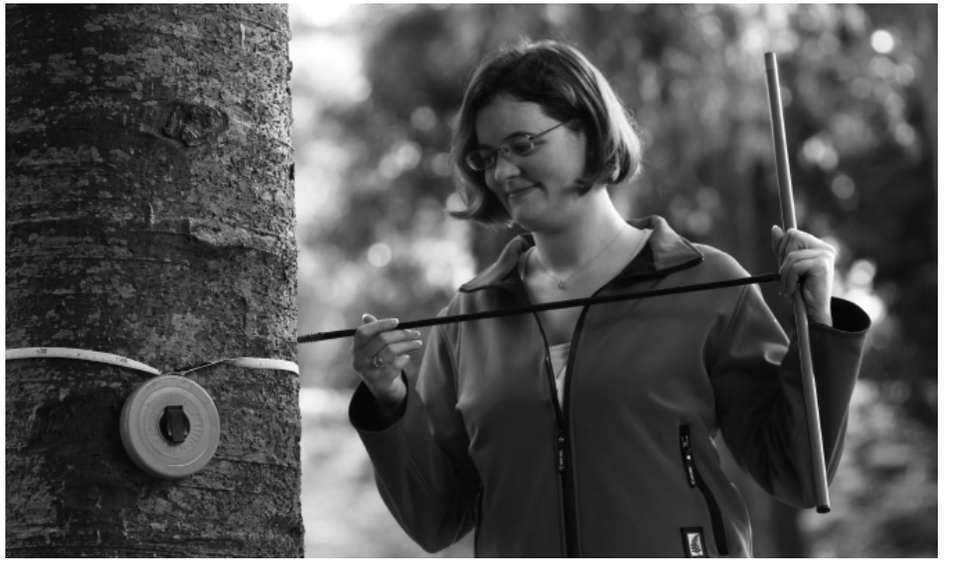
We prepare our graduates for a diverse range of careers:

Science

- ecologists (environmental monitoring, water quality control, species management)
- medical statisticians (designing and analysing clinical trials and epidemiological studies).

Finance, Marketing and Economics

- financial analysts (designing investment strategies and managing risks)
- actuaries (in the insurance and superannuation industry)
- market researchers (conducting surveys and experiments, identifying market opportunities, testing consumer perceptions, choices and the effectiveness of advertising, and predicting market trends)
- econometricians (investigating the economy at all levels from individual businesses through to national economies).



***Statistical Ecology*: Maryann Pirie** *is a PhD student using bootstrapping methods to compare the ring sequences of Kauri trees. Changes in the widths of annual rings are used to study the El Nino-Southern Oscillation.*

Management Science

- quality managers (improving the quality of products and services in business and industry)
- operations research and optimisation (finding how to make the most effective use of limited resources, e.g. stock control strategies for supermarkets and manufacturers, scheduling rosters, formulating cost efficient maintenance strategies for fleets of vehicles, determining the number of beds needed in hospital wards)

***Medical Statistics**: **Katrina Poppe** is a PhD student investigating ways of classifying cardiovascular risk, with a focus on cardiac imaging techniques to improve risk classification.*

Studying Statistics at The University of Auckland

Statistics courses at The University of Auckland are designed not only for intending statisticians, but for all students to help them become better accountants, market researchers, psychologists, biologists, geographers, engineers and so on. Statistics can be studied for most of the popular university degrees.

After Stage 1, there are four strands to our programme. Applied courses are about practical methods for collecting and analysing data. Computers do the mechanical work of constructing graphs, estimates and tests, leaving us free to concentrate on understanding what it all means and how to react. Theory courses are concerned with underlying principles and mathematical derivations. They are fun for people who like doing maths. Theoretical understanding is necessary for those who will go on to develop new statistical methods but it is also helpful for understanding advanced techniques.

Our Stage 1 courses are predominantly applied. You can start studying theoretical (mathematical) aspects of the subject with STATS 125 or at Stage 2 with STATS 210. Our statistical computing courses, consisting of STATS 220, STATS 301 and STATS 380 include data management and computer programming. More details about these three strands are given in the section entitled the Statistics Programme. The fourth strand is described in the section entitled the Operations Research Programme.

Choosing a degree

Statistics (including Operations Research) can be studied as either a major or minor part of any of the most popular degrees. Your choice of degree depends upon what else you want to study.

BSc (Bachelor of Science, 3 year programme)

Combine Statistics with any of: Computer Science, Mathematics, Psychology, Biological Sciences, Geography, Chemistry, Physics, Geology, or Sports and Exercise Science.

BCom (Bachelor of Commerce, 3 year programme)

Combine Statistics with any of: Accounting, Finance, Economics, Management, Marketing, Computer Information Systems.

BA (Bachelor of Arts, 3 year programme)

Combine Statistics with any of: Geography, Mathematics, Sociology, Anthropology, Politics, Education, Philosophy or any other Arts subject.

Conjoint BCom/BSc or Conjoint BA/BCom (both give 2 degrees in a minimum of 4 years)

Challenging programmes that permit a broader education and increased employment opportunities. See our publication "Conjoint Degrees for Quantitative Specialities in Commerce (online at www.stat.auckland.ac.nz/conjointhb.php).

BE (Bachelor of Engineering)

Many students choose Statistics as a useful option for first year Engineering.

BBIM (Bachelor of Business and Information Management)

This is a defined programme that includes one course in statistics.

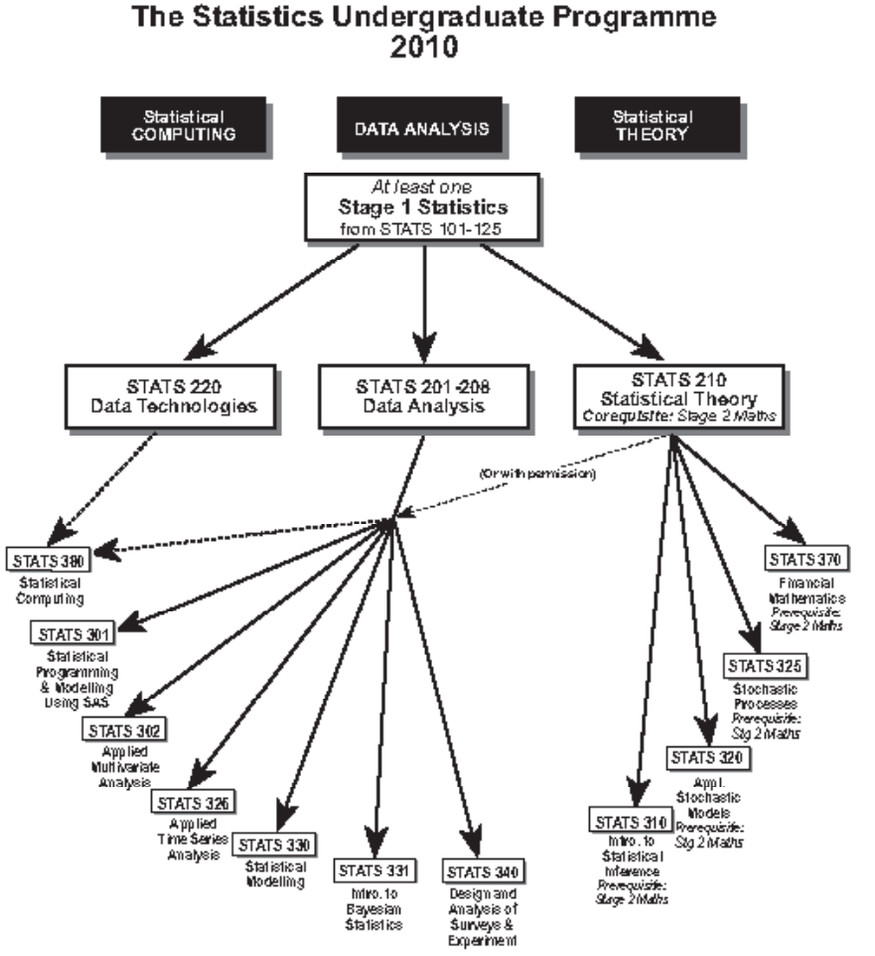
GradDipSci (Graduate Diploma in Science)

This qualification is useful for candidates who already hold a Bachelor's degree in some other subject but who either want to increase their skills and obtain a formal qualification in Statistics, or who wish to prepare themselves for graduate study in Statistics. It is a one year programme (2 years part time) which consists of Stage 2 and Stage 3 (undergraduate) courses in Statistics and a project. Students are expected to have already passed a Stage 1 course in Statistics (or have equivalent experience) and know sufficient mathematics to qualify for Stage 2 courses in Mathematics.

Sports Statistics: Bobby Willcox *is a PhD student using Cluster Analysis to identify differences in how netball players meet the demands of their position, so player "types" can be created according to shared strengths, weaknesses and strategy preferences.*

The Statistics Programme

The Statistics Programme is depicted below	
Applied Statistics courses:	Any Stage 1; STATS 201, STATS 207 or STATS 208; STATS 301, STATS 302, STATS 326, STATS 330, STATS 331, STATS 340
Theoretical Statistics courses:	Any Stage 1 but preferably including STATS 125; STATS 210; STATS 310, STATS 320, STATS 325, STATS 370. MATHS 340 very useful if going on to postgraduate study
Statistical Computing courses:	STATS 220; STATS 301; STATS 380



Majoring in Statistics

BSc:

Major: 15 points from STATS 125, 210; at least 60 points from STATS 301-390, ENGSCI 391

Second Major: 45 points from STATS 301-390

BA:

Single Major: 135 points from the following list with at least 60 points above Stage 2

STATS 101-191,STATS 201-255, STATS 301-390, MATHS 108, 150, 162, 208, 250, 269, ENGSCI 391

Double Major: 120 points from the preceding list and must include STATS 125 or 210

Minor: 90 points from the preceding list with at least 60 points in courses with a STATS course code

BCom: It is not yet possible to formally major in statistics within a BCom although it is quite easy to do sufficient statistics within the BCom (along with a Commerce subject major) to gain eligibility for entry to a postgraduate programme in statistics. At present, the best vehicles for students with substantial interests in both statistics and commerce are the conjoint BA/BCom and BCom/BSc degrees. If this possibility interests you, please contact us for further information.

Preparing for graduate study in Statistics

To gain entry to the BSc(Hons), BA(Hons) or Master's degree programmes (MSc, MA, etc.), you will need to pass STATS 210 (Statistical Theory) and it is recommended you do one of the mathematics courses MATHS 253, MATHS 208, MATHS 230. In addition,

BSc(Hons):	Major in Statistics which includes STATS 210 and at least 90 points at Stage 3 or higher. An average of at least B in 90 points above Stage 2 which includes 45 points in Statistics
BA(Hons):	Major in Statistics which includes STATS 210. An average of at least B in 90 points in Statistics above Stage 2
PGDipSci:	Major in Statistics
PGDipArts:	Major in Statistics
Masters:	Follows on after Hons or PGDip

Dr Wayne Stewart with Freaky Frequentist.

If you don't meet the above criteria but have a very good university record and a demonstrated interest in statistics, please feel free to contact us for advice. For further information about graduate study, see the Department's Postgraduate Handbook.

The Operations Research Programme

Operations Research (OR) is the application of mathematical and scientific methods to solve certain classes of problem in the design and management of large or complex systems found in business, industry and government. Typical problems involve deciding how to make the most effective use of limited resources such as people, machines, money and time. Frequently mathematical and computer representations of problems are used to solve them. OR courses teach the basic techniques used in solving resource management problems and discuss the most common areas of application.

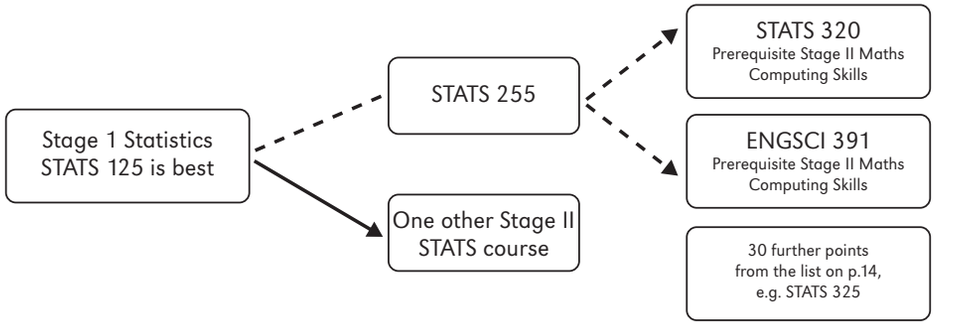
The basic techniques of OR can be grouped broadly into two classes:

1) optimisation methods such as linear programming (which may be used to minimise costs, for example), and

2) modelling techniques like computer simulation and forecasting.

Most of this modelling is probabilistic or statistical. Application areas include:

- inventory control (what should a supermarket stock, in what quantities, when should goods be re-ordered and in what quantities),
- transportation problems (how to manage a fleet of trucks),
- scheduling problems (constructing duty rosters for airline crews),
- games and competition (bidding for contracts, political campaigns),
- production planning (e.g. how often to produce batches of ice-cream, whether a single long production line is better than two parallel lines),
- queuing problems (what sort of customer queuing system should be set up in a bank, number of tellers operating in various situations),
- reliability (how long does equipment function, when should it be serviced or replaced), location problems (e.g. where to place warehouses) and
- quality control (ensuring that good quality goods are produced).



Students wanting to study OR should take Mathematics at Stage 1 and Stage 2 (including a Stage 2 course with calculus) and Stage 1 statistics (preferably including STATS 125). Computing skills are also required.

For more information please contact the Coordinator of the OR Programme Dr Ilze Ziedins (ext 85051). Enquiries can also be made to Associate Professor David Scott (ext 85055) and Dr Geoffrey Pritchard (ext 87400).

Specialising in Operations Research (BSc Students only)

First or Single Specialisation:

- 45 points: STATS 255, STATS 320, ENGSCI 391
- At least 15 points from STATS 301, STATS 310, STATS 325, STATS 326, STATS 370, STATS 380, COMPSCI 320
- At least 15 points from STATS 301-390, MATHS 326, MATHS 328, MATHS 361, OPSMGT 370, OPSMGT 371

Second Specialisation:

- 45 points: STATS 255, STATS 320, ENGSCI 391
- At least 15 points from STATS 301, STATS 310, STATS 325, STATS 326, STATS 370, STATS 380, COMPSCI 320

Note for transitional students:
Transitional students are required to take

- At least 45 points from ENGSCI 391, STATS 255, 320.
- At least 15 points from COMPSCI 320, STATS 301-390, MATHS 326, 328, 361, OPSMGT 371, 382

Statistics Courses

Stage I Courses

The University Calendar lists four Stage 1 Statistics courses. Students can take up to three courses in Statistics at Stage 1.

Students wishing to learn how to analyse data or to fulfil Psychology, BCom or BBIM requirements should take one of the equivalent courses in the "STATS 10x" sequence (STATS 101-108). These lead on to all further Statistics courses.

There are two additional Stage 1 courses that can be taken either alone or together with a STATS 10x course:

STATS 150
Lies, Damned Lies, and Statistics
(also available for General Education as STATS 150G), is a course about the uses, limitations, and abuses of statistical investigation and statistical information. It is concerned with the critical examination of the data-based arguments that pervade the media and public policy debate rather than hands-on data analysis. This course alone does not serve as a prerequisite for our more advanced courses in Statistics, or as the Statistical prerequisite for BCom, BBIM or Psychology.

STATS 125
Probability and its Applications
is intended for students with good Year 13 mathematics marks (or university equivalent). Probabilistic models are used in disciplines as varied as commerce and biology. They are critical in the assessment of risk. STATS 125 fulfils the statistical prerequisites for Stage 3 courses in Operations Research and Applied Probability. Students majoring in Statistics must take either STATS 125 or STATS 210.

STATS 101, STATS 108 - The 10x Courses
The 10x Courses are intended for anyone who will have to collect or make sense of data, either in their career or private life. These courses cover material similar to NCEA statistics but at a more advanced level.

In 2002, the first year of The University of Auckland's Teaching Excellence Awards scheme, the Stage 1 Introductory Statistics Teaching Team won two of the five awards made and in 2003 they won a New Zealand National Tertiary Teaching Excellence Award.

The 10x courses make Statistics come alive by:

- showing videos that show statistics at work in the real world;
- using class experiments to illustrate concepts;
- using small groups to brainstorm ideas and answer exercises;
- using computer demonstrations to clarify ideas, and
- choosing enthusiastic lecturers who want to assist students to do well.

In fact if your idea of fun is copying formulae off whiteboards you probably won't like our 10x courses!

If you think Statistics 10x sounds good but you have always been a bit worried about maths, we offer a variety of help services. See the section entitled "Help Systems" (p.27).

We try to make our courses easier by:

- helping to organise student study groups - make friends and help each other at the same time;
- running voluntary tutorials for people whose skills are a bit rusty;
- staffing a "Help Clinic" that is open over 35 hours per week to assist you with any problems.

The 10x courses are very similar and their exams are almost identical. You may choose only one of them.

Points:	15 point course	
STATS 101:	Introduction to Statistics	Both Semesters City
STATS 108:	Statistics for Commerce	Both Semesters City and Summer School
STATS 101G:	[General Education course code]	[Can be in same time and room as any STATS 10x stream]
Restrictions:	You can choose only one course from STATS 101 - STATS 108 or STATS 191.	
Credit for Coursework:	Final exam = 60%; test = 20%; assignments = 20% or Final exam = 70%; assignment = 20%; test =10%. Must obtain at least 50% overall and at least 45% in final exam to pass.	
Textbooks:	Wild & Seber Chance Encounters: A First Course in Data Analysis and Inference is recommended. Other materials produced by the Department will be available from the Student Resource Centre and on CECIL. A calculator which can automatically compute means and standard deviations (for further discussion, see the Section on "Calculators and Computers").	
Advice about the 10x Courses:	Christine Miller (ext 84275), David Smith (ext 85390), Matt Regan (ext 85242) , Ross Parsonage (ext 86608).	

Choosing your 10x Course

The course you should apply for depends upon the degree in which you are enrolling. Pick the course to enrol in by using the following table (timetable constraints may necessitate other choices).

Degree	Course
BCom, BProp, BPlan, BArch	STATS 108
BSc, BA and all other degrees	STATS 101

Topics covered in the 10x Courses

The steps involved in conducting a statistical investigation are studied with the main emphasis being on data analysis and the background concepts necessary for successfully analysing data, extrapolating from patterns in data to more generally applicable conclusions (statistical inference), and communicating results to others. Technical topics discussed include: types of investigations; data collection; tools for exploring and summarising data; probability and distributions; tools for extrapolating from data (includes confidence intervals to convey uncertainty, statistical significance, t-tests, and p-values); nonparametric methods; analysing relationships (includes comparing groups and one-way analysis of variance, simple linear regression, correlation, tables of counts and the chi-square test).

Differences between the 10x Courses

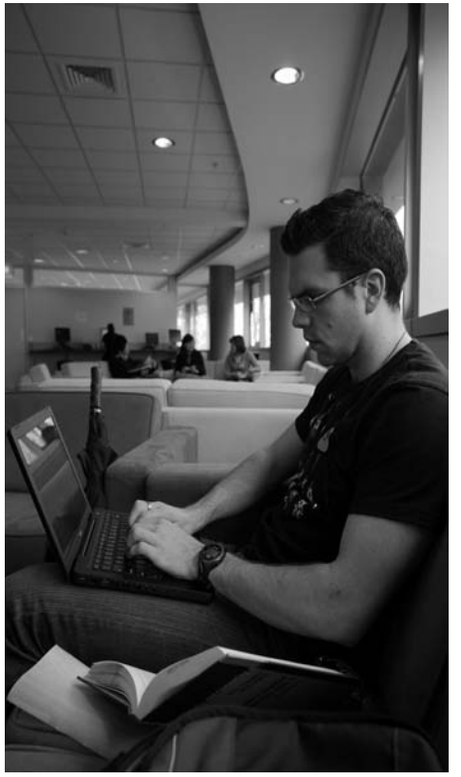
STATS 101 is our basic Statistics course. **STATS 108** for Business and Economics students has more business examples.

Provision for **STATS 101G** (General Education) students has been made within each STATS 10x stream giving students who want to study Statistics for General Education the greatest possible timetabling flexibility.

All students with very high levels of performance in NCEA level 3 or 4 Statistics and Modelling or Calculus or A level Cambridge Mathematics are encouraged to discuss their study plans and the possibility of direct entry to Stage 2 Statistics with David Smith (ext 85055) or Christine Miller (ext 84275).

Preparation required for the 10x Courses

If you are worried about having the mathematical skills to take a 10x course, the first thing to know is that the 10x courses are not primarily mathematics courses. The main mathematical skills needed are to be able to work with decimals and fractions and to use a standard calculator.



The Student Learning Centre runs preparatory workshops that will help build your mathematical confidence. There is a small cost for the workshops. The Student Learning Centre staff can also direct you to appropriate self-study modules. Contact the Student Learning Centre for more details phone 373 7599, ext 88850 or 88967. The url of their website is www.cad.auckland.ac.nz/index.php?p=slc

Help available for all Stage 1 Statistics students:

We run a variety of help services for all our Stage 1 students. See the section entitled "Help Systems" (p.27).

STATS 125 (15 points)
Probability and its Applications

Taught: First Semester City
Recommended Preparation: Good marks in Year 13 mathematics or university equivalent
Corequisites: MATHS 108 or MATHS 150 (or equivalent –see Department)
Restriction: If you have already passed STATS 210, you are not allowed to enrol into STATS 125
Assessment: Final exam = 60%; test = 15%; assignments = 20%; tutorial tasks = 5% or Final exam = 75%; assignments = 20%; tutorial tasks = 5%
For Advice: Mark Holmes (ext 88679)

This course is primarily aimed at Stage 1 students who have enjoyed mathematics and probability problems and would like to learn more about probability and its use in solving real-world problems. It fulfils the statistical prerequisites of the Stage 3 applied probability and operations research courses STATS 320 and STATS 325, and is strongly recommended for students interested in these areas. Students majoring in Statistics must take either STATS 125 or STATS 210. This course concentrates on probability models and their applications in a variety of fields. Probabilistic models are used in disciplines as varied as commerce and biology (e.g. calculating the probability that a share price will exceed a certain level or the probability that a population will become extinct). Probability underpins both statistics and (stochastic) operations research.

Topics studied include:
Probability, conditional probability, Bayes theorem, random walks, Markov chains, probability models. Illustrations will be drawn from a wide variety of applications including finance and economics; biology; telecommunications, networks; games, gambling and risk.

STATS 150 (15 points)
Lies, Damned Lies and Statistics

Taught: Second Semester City
Assessment: Final exam = 50%, test = 15%, assignment = 30%, tutorial tasks=5%
For Advice: Maxine Pfannkuch (ext 88794), Stephanie Budgett (ext 85756)

This course (also available for General Education as STATS 150G) is to prepare anyone, regardless of whether or not they have any background in statistics, to become a critical consumer of statistical information. It will be useful, for example, for aspiring journalists, politicians, political scientists, sociologists, lawyers, public communicators, health personnel, conservationists, environmental scientists, business people, marketers, engineers, and scientists. It examines the uses, limitations, and abuses of statistical information in a variety of activities such as polling, public health, sport, law, marketing, and the environment. The statistical concepts and thinking underlying data-based arguments will be explored. The interpretation and critical evaluation of statistically-based reports as well as the construction of statistically-sound arguments and reports will be emphasised. Some course material will be drawn from topics currently in the news.

This course teaches you how to critique statistical reporting. It does not, however, teach you how to analyse data. Thus, it alone does not serve as a prerequisite for any of our more advanced courses in Statistics, or as the statistical prerequisite for BCom or Psychology.

Stage II Courses

We teach **four different aspects** of Statistics at Stage 2, namely **Data Analysis** (STATS 201, STATS 207 or STATS 208), **Statistical Theory** (STATS 210), **Statistical Computing** (STATS 220) and **Operations Research** (STATS 255). If you wish to advance in Statistics you are advised to take at least the first two of these courses (i.e. take one of STATS 201/7/8 **and also** STATS 210). They are prerequisites for some of the Stage III courses and STATS 210 is a prerequisite for all postgraduate courses.

STATS 201 Data Analysis
STATS 208 Data Analysis for Commerce
(15 points)

Taught: Both Semesters City
Summer School City (STATS 208 only)
Prerequisites: 15 Points from STATS 101, 102, 108, 191
Restrictions: You may take only one of STATS 201, 207 and STATS 208.
Assessment: Final exam = 60%; test = 20%; assignment = 20% or
Final exam = 70%; test = 10%; assignment = 20%. Students must obtain at least 50% overall and at least 45% in the final exam to pass.
Textbooks: Wild & Seber "Chance Encounters: A First Course in Data Analysis and Inference". Also consult the Mathematics and Statistics Student Resource Centre.
For Advice: David Smith (ext 85390), Mike Forster (ext 88759), Andrew Balemi (ext 85713), Christine Miller (ext 84275).

These three courses teach computer based data analysis. They are particularly useful for Business and Economics, and the Biological, Medical and Social Sciences. They are useful for anyone who will do research, or even just read research papers in any discipline where research makes use of statistical analyses.

Topics studied include: Exploratory data analysis, the analysis of linear models including two-way analysis of variance, experimental design and multiple regression, the analysis of contingency table data including logistic regression, the analysis of time series data, and model selection.

STATS 207 Data-centred Investigation and Analysis

Taught: Both Semesters City
Prerequisites: (Same as for STATS 201/8).
Restrictions: (Same as for STATS 201/8).
Assessment: Final exam = 60%; assignment = 15%; project = 25% or
Final exam = 70%; assignment = 15%, project = 15%. Students must obtain at least 50% overall and at least 45% in the final exam to pass.
Textbooks: (Same for STATS 201/8)
For Advice: David Smith (ext 85390), Mike Forster (ext 88759), Andrew Balemi (ext 85713), Christine Miller (ext 84275).

A practical course in the statistical analysis of data, with hands on experience in research design and execution. The primary coursework assessment will be a self-selected group project. STATS 207 will have shorter assignments than STATS 201/208 and no mid-semester test. The exam for STATS 207 will be the same as for STATS 201/8.

Topics studied include: (Same as for STATS 201/8).

STATS 210
Statistical Theory (15 points)

Taught: Both Semesters City
Corequisites: 15 points from MATHS 208, 250 or equivalent
Assessment: Final exam = 75%, test = 7%, tutorials = 8%, assignments = 10%, or
Final exam = 100%.
Textbooks: Notes distributed in class
For Advice: Rachel Fewster (ext 83946), Stephanie Budgett (ext 85756)

STATS 210 introduces the theory that underlies the statistical methods used in practical statistics courses. It is aimed at students who enjoy maths and are interested in probability and statistics. It is useful for students with interests in Econometrics, Operations Research, Finance, and theoretical aspects of Marketing Research, as well as those who have Maths or Statistics as their main interest. STATS 210 is a prerequisite for STATS 310 and admission to a Postgraduate degree in Statistics. Student majoring in Statistics must take either STATS 125 or STATS 210.

Topics studied include: Probability, discrete and continuous distributions, likelihood and estimation, hypothesis testing.

STATS 220
Data Technologies (15 points)

Taught: First Semester City
Prerequisites: 15 points in Stage I Computer Science or Statistics
Assessment: Final exam = 60%; test = 20%; assignment = 15%; labs = 5%
Textbooks: Introduction to Data Technologies www.stat.auckland.ac.nz/~paul/ItDT
For Advice: Paul Murrell (ext 85392), Ross Ihaka (ext 85054)

This course introduces a variety of computer technologies relevant to storing, managing, and processing data. The course has two aims: to teach software tools specific to the handling of data, and to teach and build confidence with general concepts of computer languages. It is useful for students with interests in applying statistics in business or research environments. Lectures will be reinforced with weekly (optional) lab work.

Topics studied include: How to Write Computer Code; Publishing Data on the World-Wide Web (HTML); Data Description and Semantic Markup (XML); Data Storage (File Formats, Spreadsheets, Databases); Data Management and Summary (Database Queries, SQL); Data Processing (Scripting, Pattern Matching, R).

STATS 255
Introduction to Operations Research
(15 points)

Taught: Both Semesters City
Prerequisites: 15 points in Stage 1 Statistics or Mathematics
Restrictions: ENGSCI 255
Assessment: Final exam = 60%; test = 20%; assignment = 20% or
Final exam = 80%; assignment = 20%, must obtain at least 50% overall and at least 45% in final exam to pass.
Textbooks: Course book purchased from Student Resource Centre
For Advice: Wiremu Solomon (ext 88771), Geoffrey Pritchard (ext 87400), Matthias Ehrgott (Eng. Science ext 82421), David Ryan (Eng. Science - ext 88398), Andy Philpott (Eng. Science ext 88394).

This course considers a range of practical operations research problems, including effective use of limited or valuable resources such as machines and personnel, understanding queues and simulation. The course is valuable for students interested in Commerce, Statistics, Mathematics, and Computer Science. The course will emphasise the relationship between business and industrial applications and their associated Operations Research models. Computer packages will be used to solve practical problems.

Topics studied include: Linear programming, transportation and assignment models, network algorithms, queues, inventory models, and simulation.

Stage III Courses

Stage 3 courses fall under four broad headings, namely, Applied Statistics, Theoretical Statistics, Statistical Computing and Operations Research. Before reading further, please look back at the diagrams in the Statistics Programme and Operations Research Programme sections. Courses STATS 201, STATS 207 and STATS 208 are identical for prerequisite purposes and are hereafter referred to as STATS 201/7/8.

Themes

Applied Statistics

[STATS 301, STATS 302, STATS 326, STATS 330, STATS 331, STATS 340, STATS 351]
In content, the Stage 3 applied courses follow on from STATS 201/7/8, which is a prerequisite. N.B. All Stage 3 applied courses have restricted entry made necessary by limited laboratory space.

Theoretical Statistics

[STATS 310, STATS 325, STATS 370]
STATS 310 deals with theoretical statistics (statistical models and statistical inference). STATS 325 deals with applied probability and stochastic processes. Both require STATS 210 or STATS 125 (or alternatives) and Stage 2 pure mathematics (e.g. MATHS 208 or MATHS 252). STATS 370 deals with mathematical and statistical aspects of Finance.

Statistical Computing

[STATS 301, STATS 380]
STATS 301 follows on most naturally from STATS 201/7/8 whereas STATS 380 can be taken after either STATS 220 or STATS 201/7/8. Restrictions on entry apply, see "Applied Statistics" above.

Operations Research

[STATS 320, STATS 325, ENGSCI 391]
STATS 320 and STATS 325 deal with stochastic (probabilistic) Operations Research. ENGSCI 391 deals with deterministic Operations Research. Both require Stage 2 pure mathematics (e.g. MATHS 208 or MATHS 250).

STATS 301
Statistical Programming and Modelling Using SAS (15 points)

Taught: Summer School, Second Semester City
Prerequisites: 15 points from STATS 201, 207, 208, or B+ in BIOSCI 209
Assessment: Final exam = 60%; coursework = 40% (1 test worth 20% and assignments worth 20%), must obtain at least 50% in the assignments and 50% in the final exam to pass.
Textbooks: Recommended: The Little SAS Book: a primer (SAS 2003, 3rd edition). This book can be purchased from the Student Resource Centre when in stock.
For Advice: Andrew Balemi (ext 85713), Patricia Metcalf (ext 85055 or 87715)

One of the key purposes of STATS 301 is to introduce you to the SAS software for the purposes of statistical inference, programming and modelling. SAS is a major commercial statistics package that is used at about 40,000 sites worldwide, and by 4 million users. We will use SAS as a programming language, and some more advanced features of SAS programming.

STATS 301 is designed to be a practical course in the use of SAS in industry, such as, Market Research, Finance and Medicine.

To date all the data you have seen has usually been given to you in a form ready for exploration and modelling. This is rarely the case in most day to day projects in industry. Here, the emphasis will be on getting data from a 'raw and messy' form into as state ready for the data analysis techniques that you have learnt, or will learn, at undergraduate level.

Topics studied include: The general SAS programming environment, reading data into SAS, 'Slicing Dicing and Splicing data' and presenting the data in user friendly formats. Statistical Modelling techniques include linear modelling, generalised linear modelling, multivariate ANOVA, tables of counts.

STATS 302
Applied Multivariate Analysis (15 points)

Taught: First Semester City
Prerequisites: 15 points from STATS 201, 207, 208 or B+ in BIOSCI 209
Assessment: Final exam = 60%; coursework = 40% (1 test worth 20% and assignments worth 20%), must obtain at least 50% in final exam to pass.
For Advice: Brian McArdle (ext 85845)

This course covers the exploratory analysis of multivariate data, with emphasis on the use of statistical software and reporting of results.

Topics studied include: Techniques for data display, dimension reduction and ordination, cluster analysis, multivariate ANOVA and associated methods. The approach will be largely non-mathematical and practical, with an emphasis on the understanding of the techniques.

STATS 310
Introduction to Statistical Inference (15 points)

Taught: First Semester City
Prerequisites: STATS 210 and 15 points from MATHS 208, 250 or equivalent
Assessment: Final exam = 75%; coursework = 25% (1 test worth 15% and assignments worth 10%) or Final Exam = 100%
Textbooks: J.A. Rice, Mathematical Statistics and Data Analysis, 3rd edn (2005), Duxberry Press, available from the University Bookshop.
For Advice: Chris Triggs (ext 88856)

This course follows on from course STATS 210 and provides the theory underlying the statistical methods used in Stages 2 and 3. Many BSc(Hons) Statistics courses use this course as a prerequisite. It is a good course for students with interests in Mathematics, Econometrics or Finance, as well as those who consider their main interest to be Statistics.

Topics studied include: Point and interval estimation, likelihood methods, hypothesis testing, multivariate distributions, linear models.

STATS 320
Applied Stochastic Modelling (15 points)

Taught: First Semester City
Prerequisites: 15 points from STATS 125 or STATS 210; or 15 points from STATS 201, 207, 208, 220 or B+ in BIOSCI 209
Assessment: Final exam = 65% or 90%; coursework = 35% or 10% (10% compulsory computer assignments; 25% optional coursework consisting of 1 test and assignments), 50% in final exam to pass.
Textbooks: Recommended Reading: Kleijnen, J. & van Groenendaal, W., Simulation: A Statistical Perspective (Wiley 1992)
For Advice: Wiremu Solomon (ext 88771), Geoffrey Pritchard (ext 87400), Ilze Ziedins (ext 85051), Christine Miller (ext 84275)

This course concentrates on stochastic methods used in operations research, biology etc. It covers the construction, analysis and simulation of stochastic models, as well as some optimization questions connected with these models. It is valuable for students interested in Business, Economics, Statistics, Mathematics, Computer Science and the Biological Sciences.

Topics studied include: The Poisson process, birth and death processes, queuing theory, simulation, random number generation, variance reduction, and optimization.

STATS 325
Stochastic Processes (15 points)

Taught: Second Semester City
Prerequisites: B in one of STATS 125, 210 or 320;

or 15 points from MATHS 208, 250, 253
Assessment: Final exam = 75%, test = 10%, assignments = 15%, or Final exam = 100%
Textbooks: Grimmett, G.R. and Stirzaker, D.R., Probability and Random Processes, (OUP 1992)
For Advice: Rachel Fewster (ext 83946), Ilze Ziedins (ext 85051)

This course looks at the theory of stochastic processes, showing how complex systems can be built up from sequences of elementary random choices. The course is useful for students with interests in Mathematics, Statistics, Operations Research, Finance and Theoretical Biology.

Topics studied include: Generating functions, branching processes, Markov chains, random walks.

STATS 326
Applied Time Series Analysis (15 points)

Taught: First Semester City
Prerequisites: 15 points from STATS 201, 207, 208 or B+ in BIOSCI 209
Assessment: Final exam = 60%; coursework = 40% (1 test worth 20% and assignments worth 20%), 50% in final exam to pass.
For Advice: Mike Forster (ext 88759)

This course covers Time Series data, with an emphasis on computer based analysis and reporting the results of analyses.

Topics studied include: Time series data, non-stationary time series models, stationary time series models, differencing of non-stationary time series and an introduction to some advanced topics in time series analysis. The approach will be largely non-mathematical and practical, with an emphasis on applications using R and an appreciation of the problems associated with modelling time series data.

STATS 330
Statistical Modelling (15 points)

Taught: Second Semester City
Prerequisites: 15 points from STATS 201, 207, 208 or B+ in BIOSCI 209
Assessment: Final exam = 60%; coursework = 40% (1 test worth 20% and assignments worth 20%), must obtain at least 50% in final exam to pass.
For Advice: Alan Lee (ext 88749)

The main emphasis of this course is on analysing data using extensions of the regression methods seen in STATS 201/7/8. These extensions permit, for example, the building of models for response variables which are not continuous. The main statistical computer package used is R. Students from STATS 210 who have not taken STATS 201/7/8 will need to do some preparatory reading. It is very useful for almost all subjects in Business and Economics, for Operations Research, for any experimental or social science. It is also a useful complement to Computer Science.

Topics studied include: Application of the generalised linear model to fit data arising from a wide range of sources, including multiple linear regression models, log-linear models and logistic regression models. The graphical exploration of data.

STATS 331
Introduction to Bayesian Statistics (15 points)

Taught: Second Semester City
Prerequisites: 15 points from STATS 201, 208, 208 or B+ in BIOSCI 209
Assessment: Final exam = 60%, coursework = 40% (1 test worth 20% and assignments worth 20%)
Textbooks: Notes will be available in class
For Advice: Wayne Stewart (ext 83763)

The paper starts with a brief history of statistics, and shows that the Bayesian paradigm was basically how statistics was originally applied and how it went out of favour, to be largely replaced by the frequentist (classical) paradigm only to flourish again recently due in part to the advancement of the computer and the mathematics of MCMC (Monte Carlo Markov Chains). The combination of these has meant that Bayesian statistics is feasible and is capable of answering some questions that the classical methods cannot.

The Bayesian approach will be introduced through discrete distributions using "Bayes box". The parameter is treated as a random variable with a probability function. The prior reflects prior knowledge, which is updated with the likelihood to form the latest understanding of the parameter called the posterior. After many of the foundational concepts have been developed for the discrete case using the Bayes box, the continuous version of Bayes theorem will be developed and applied using the software package WinBUGS. The course will enable a student to practically perform the kind of analyses encountered in STATS 201/7/8 from a Bayesian perspective and will be an eye opener which could be the spark to revitalize your statistical career.

Topics studied include: Bayesian paradigm, hypothesis testing, point and interval estimates, graphical models, simulation and Bayesian inference, diagnosing MCMC, model checking and selection, ANOVA, regression, GLMs, hierarchical models and time series.

STATS 340
Design and Analysis of Surveys and Experiments (15 points)

Taught: First Semester City
Prerequisites: 15 points from STATS 201, 207, 208, 210 or B+ in BIOSCI 209
Restrictions: STATS 341 and 351
Assessment: Final exam = 60%; term test = 20%; assignments = 20%, must obtain at least 50% in final exam to pass.
Textbooks: Lecture workbook will be distributed in class and on Cecil.
For Advice: Joss Cumming (ext 85756), James Curran (ext 88755), Chris Wild (ext 88797)

This course looks at the design and analysis of the sample survey. It is useful for students with interests in statistics or any area that uses sample surveys (e.g. market research, social sciences, public health) or designed experiments (psychology, market research, engineering, medical research, biological sciences, many other sciences and social sciences).

Topics studied include: Design, implementation and analysis of surveys including questionnaire design, sampling design and the analysis of data from stratified, cluster and multistage sampling. Design and implementation issues for scientific experiments including blocking, replication and randomisation and the analysis of data from designs such as complete block, balanced incomplete block, Latin square, split plot, factorial and fractional designs.

STATS 351
Design and Analysis of Experiments (15 points)

Taught: First Semester City
Prerequisites: 15 points from STATS 201, 207, 208, 210 or B+ in BIOSCI 209
Restrictions: STATS 340
Assessment: 60% Final exam, 20% term test, 20% assignments.
Textbooks: Lecture notes will be distributed in class.
For Advice: Arden Miller (ext 85053)

This course introduces the design and analysis of experiments. It presents the foundations of the statistical approach to designing experiments.

Topics studied include: Commonly used designs such as completely randomised designs, randomised complete block designs, balanced incomplete block designs, split plot designs, Latin square designs, two-level factorial designs and fractional factorial designs.

STATS 370
Financial Mathematics (15 points)

Taught: Second Semester City
Prerequisites: 15 points in Stage 2 Statistics or

B+ in BIOSCI 209 and15 points in Stage 2 Mathematics
Assessment: Final exam = 75%; coursework 25% (1 test worth 15% and assignments worth 10%) or Final exam = 100%, must obtain at least 50% in final exam to pass.
Textbooks: None. Handouts will be given out.

For Advice: Robert Chan (ext 85212), Ivan Kojadinovic (ext 83785)

This course is suitable for Finance majors who want to learn more about the more mathematical aspects of the subject and for Statistics or Mathematics majors wanting to learn about Finance.

Topics studied include: Mean-variance portfolio theory; options, arbitrage and put-call relationships; introduction of binomial and Black-Scholes option pricing models; compound interest, annuities, capital redemption policies, valuation of securities, sinking funds; varying rates of interest, taxation; duration and immunisation; introduction to life annuities and life insurance mathematics.

STATS 380
Statistical Computing (15 points)

Taught: First Semester City
Prerequisites: 15 points from STATS 201, 207, 208, 220 or B+ in BIOSCI 209
Assessment: 60% Final exam, 40% coursework
For Advice: Ross Ihaka (ext 85054), Paul Murrell (ext 85392)

This course is designed to provide an introduction to programming with the R programming language. The course will provide a general introduction to programming and discuss the specific techniques which make it possible to use R productively. After successfully completing the course, students should be able to develop new software components for their own use or for use by others.

Topics studied include: Programming (basic data structures, control-flow and vectorisation, creating new functions object-oriented programming, debugging techniques); Numerical Techniques (solving linear and non-linear equations, root finding, optimisation, Monte-Carlo techniques); and Graphics (creating statistical plots in R including Trellis plots, plot customisation, writing functions to draw plots including completely new plot types).

ENGSCI 391
Optimization in Operations Research (15 points)

Taught: Both Semesters City
Prerequisites: 15 points from ENGGEN 150, ENGSCI 111, MATHS 208, 230, 250, 253 and one of COMPSCI 101, ENGGEN 131, ENGSCI 131, MATHS 162, STATS 220.
Restrictions: STATS 391
Assessment: Final exam = 70%; coursework = 30% or Final exam = 85%; coursework = 15% (15% compulsory computer assignments; 15% optional coursework consisting of short tests).
For Advice: Matthias Ehrgott (Eng Science ext 82421), David Ryan (Eng Science ext 88398)

This course was previously numbered STATS 391. It has always been taught by staff of the Engineering Science Department. It provides an understanding of some of the mathematical ideas underlying the computer packages used in STATS 255, together with some practical experience in the use of the methods. ENGSCI 391 concentrates on deterministic methods based on linear optimisation models such as linear programming and network optimisation. This course is valuable for students interested in Commerce, Statistics, Mathematics and Computer Science.

Topics studied include: Linear programming; Simplex and revised Simplex methods; duality and the dual simplex method; post optimal analysis; network optimisation; transportation and flow problems.

Help systems

Help available for Stage 1 Statistics

The assistance available at Stage 1 is described in detail in the Study Guide for Stage 1 Statistics. Some elements include:

Assistance area

During the year the Statistics Department operates an Assistance Area for first year Statistics students. It is staffed 35 hours or more per week and is located in G16, Ground Floor of the Science Centre, Building 303. Please note that tutors for Statistics will be wearing yellow sashes.

Optional tutorials

Regular tutorials are available for those who need additional support in a small classroom environment.

Computer laboratories

Statistics demonstrators are on duty in the computer laboratory from 9:00am to 5:00pm daily to assist students with their computer work.

Student Learning Centre

The Student Learning Centre (SLC) is located in Kate Edger Information Commons, and it is staffed by tutors trained to help students develop better learning strategies. Twice each semester a brochure is published by the SLC, advertising the workshops held for that half of the semester. The Centre has statistics and mathematics skills workshops for students who do not have the background knowledge normally assumed in these areas for Statistics 10x courses. SLC activities are also well advertised in Statistics 10x lectures. You may register for workshops, or make individual appointments with tutors at the SLC office (phone 373 7599, ext 88850 or 88967).

Statistics Tuākana Programme

The Statistics Tuākana Programme provides academic support to Māori and Pacific students taking STATS 10x courses and some stage 2 Statistics courses. There is a Tuākana room (Room 123) located on the first floor of Building 303 and is used for tutorials, revision workshops and individual or group study purposes. For more information about the programme contact Susan Wingfield (Room 288, ext 84934, s.wingfield@auckland.ac.nz)

Help for STATS 201/7/8

There are two main sources of help for students in STATS 201/7/8. For most hours in the day there is at least one demonstrator in the Undergraduate Computing Lab on the City Campus who is fluent in both the course material and the computer package we use. They can provide a valuable source of assistance to students, especially if approached outside "rush hour" times in the laboratory. Stage 2 students can also use the Assistance Room, which is staffed 35 hours per week. Regular optional tutorials are available for those who need additional support in a small classroom environment. And of course, you can always approach any of the lecturers for help. Detailed descriptions of the services available will be given in the Study Guides for STATS 201/7/8.

Help for all other courses

For assistance with courses other than Stage 1 and STATS 201/7/8, please see your lecturer. Lecturers will post "Office Hours" for student-help on their doors. Most are happy to help you at any time when you find them available in their office. Office hours are simply times when they promise to be there. There will be some assigned assistance hours for STATS 125, STATS 210, STATS 255 and some Stage 3 courses. These will be announced in lectures.

Preparing for University Study

Tertiary Foundation Certificate Programme (TFC)

The TFC Programme is recommended for students who left school without the qualifications to enrol in University courses. It is a full-year Programme covering a range of subjects. The Mathematics section prepares students to enrol in MATHS 101 or MATHS 102 the following year. Further information and application forms are available from the Co-ordinator, Stephanie Wyatt in the English Department, Arts 1 Building, Room 401, Ext 87335. For information on the Mathematics component contact Moira Statham or Sheena Parnell, Rm 324, Level 3, Building 303, Science Centre, ext 85750.

New Start - University preparation

New Start programmes are designed for people 20 years and over who do not have the academic qualifications for entry to The University of Auckland. The New Start General programme will provide learning support to build the skills and confidence to succeed at university. The New Start grade will determine what papers a student can enrol in for their first year of study. New Start for Business offers a short intensive introductory mathematics course prior to each semester. The compulsory paper Preparation for Mathematics includes a statistics component. For more information contact Kahu Pou 373 7599 ext 87046, Maria Meredith ext 82920 or Jan Edmonds ext 87831. Their offices are at Centre for Continuing Education, Level 6, 1-11 Short Street.

Enquiries about Statistics

If you have any general queries at any time relating to the Department of Statistics, the staff in the Department Office will be happy to help you. The Statistics programme was discussed earlier. The listings for Statistics courses give names and telephone extensions of people who can give you more detailed information about any particular course. If you want to visit in person, office numbers are given in the Staff Directory or on the notice board by the Statistics Department Office. See also our discussions about "Choosing a Degree" (p.9).

Getting set up for 2010

Student Resource Centre

The City Campus Student Resource Centre is located in G16, SciSpace, Ground Floor of the Science Centre, Building 303, 38 Princes Street (ext 85510). The Resource Centre has been set up specifically to deal with student-related activities. These include:

- dealing with assignment distribution and collection
- handouts
- selling books, disks, additional pages for printing in the Computer Laboratory, etc.
- updating student records and marks

If you encounter a problem and you do not know what to do, enquire at the Student Resource Centre.

Buying textbooks

Many Statistics courses use material (Textbooks, Study Guides, Computer Manuals etc.) produced by the Department. These will be sold at the Student Resource Centre in G16, Ground Floor of the Science Centre, Building 303. Other textbooks will be available at the University Bookshop, Campus Branch at Student Commons Building, 2 Alfred Street. The prescribed texts for Statistics courses are listed as part of the course descriptions in this Handbook. A second-hand bookshop is operated by the Students' Association through the University Bookshop. There is another second hand-book shop, Volume 1, on Symonds Street. Sometimes second-hand prices are more expensive than new prices so it pays to check before you buy. Check also that the second-hand copies are the correct edition.

Calculators and computers

For Statistics 10x any calculator which can automatically compute means and standard deviations (e.g. a Casio fx82L or Sharp EL531LH) will be sufficient. There are some conditions placed on the type of calculator that is permitted in our examinations: It must be hand-held and self-powered.. If you are in any doubt as to the eligibility of your calculator, check with your lecturer before the examination.

Computer laboratories versus using a home computer

Our laboratory facilities have sufficient capacity for you to do all your assigned computer work. However, many students do have access to computers at home and may find it more convenient to use their home computer.

The "10x" courses use Microsoft Excel and the statistical software package "SPSS". SPSS software is available for home use at an extremely discounted price from the Student Resource Centre.

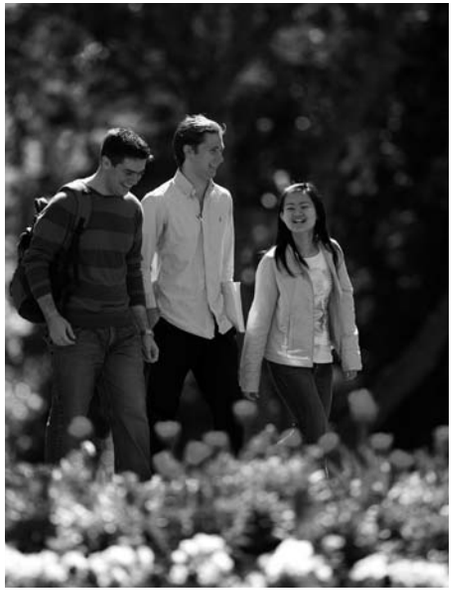
The Statistics Department uses a locally produced statistical computing package called R in many of our courses. This package is available from the Student Resource Centre.

Using the computer laboratory

The Department shares a large 120-seat computer laboratory with the Department of Mathematics, located in the basement of Building 303S. This laboratory is for Statistics students in courses that set laboratory assignments. The laboratory can be very busy around assignment due dates. We urge students to work on their assignments early to ensure access to computers!

Changing your course after enrolment

Staff at the Faculty Student Centres have the necessary (SA-70) forms to fill in for a change of course. Please note there is a charge for changing courses (including dropping and adding courses) after week 2 of each semester. You will need to go to the main Statistics Office Reception (in the City) and you will be referred to the correct person. The Graduate Officer must be consulted for changes to Masters or Postgraduate courses. It is advisable to retain your receipt for any change of course. The Calendar lists deadline dates for course changes. If you do make a late enrolment it is recommended you see your lecturer to obtain handouts/assignments etc.



Information for international students

Statistics courses at all levels are available to international students with the appropriate background. International students apply for places in a degree programme, say Bachelor of Arts (BA) or Bachelor of Science (BSc). If they are successful, they will be able to claim a place in any of the courses offered for that programme, provided they have the prescribed academic background. Information about minimum entry requirements for the various degree programmes, application procedures, tuition fees and scholarsips is available online from www.auckland.ac.nz/international/, and then clicking on "Prospective International Students".

Departmental and General Information

Scholarships and Prizes

There are a large number of University and privately funded scholarships and prizes available for students at The University of Auckland. Scholarships help you fund your education. You may be eligible to apply for some of them. The University's "Scholarships and Financial Support" homepage can be found at www.auckland.ac.nz/scholarships. There are links for students in many different categories including "Māori and Polynesian Scholarships".

Prizes are honours which only provide a small amount of money but look very impressive on your C.V. (curriculum vitae, resume). Prizes awarded by the Department of Statistics include:

Annual Prize in Statistics:

Awarded to the student who has achieved the best year's work in Statistics at any level. Usually awarded at MSc or BSc(Hons) level.

Senior Scholarship in Statistics:

Awarded to the undergraduate student who has achieved the best year's work in Statistics at the Stage 3 level.

NZ Aluminium Smelters Prize:

Established in 1999 by NZ Aluminium Smelters Ltd, this prize is conferred on the student who has achieved the best work in Stage 3 courses in Applied Statistics.

Statistics New Zealand Prize:

Established in 1994 by Statistics New Zealand, this prize is conferred on the student who has achieved the best work in Stage 3 courses offered by the Department.

Senior Prizes in Statistics:

Senior Prizes are awarded to approximately 5% of undergraduate students who achieve the highest grades in at least three Stage 3 courses in two consecutive semesters. The list of prize winners is linked from the Statistics Department homepage.

Communication and student representation

Staff/Student Consultative Committee

At the beginning of each semester each class elects a representative to attend meetings and discuss matters concerning students and the department. At least two meetings are scheduled each semester. These meetings are attended by the elected student representatives and departmental staff. The meetings are a means of getting advice from students about how to improve the Department so it can serve students better. We often have more than one representative from a course - we are keen to involve any student who wants to help. Class representatives also raise issues on behalf of other students. Students are able to approach their class representatives if they want a matter raised. You may contact your class representatives through the Statistics Office if you are unsure who they are. A graduate and an undergraduate representative are asked to volunteer or are elected to attend Faculty of Science Liaison meetings for the entire year.

Complaints

If you have any complaints about the way you have been treated by the Department, our Head of Department invites you to discuss them with him directly. If you find the prospect of approaching the HoD daunts you, other avenues for making complaints are through your class representative, or Joss Cumming (ext 85756, Room 209), Chair of the Staff/Student Consultative Committee, or any lecturer that you do find approachable. (Small complaints are usually best dealt with by the Stage 1 Course Administrator or your Lecturer).

Coursework, sickness, bereavement etc

How much work am I expected to put into each course?

You cannot learn statistics without doing statistics. Statistics courses involve a considerable amount of assignment work. In applied courses, much of this involves the use of computers. Coursework consists of assignments and tests. Credit is given for coursework as well as for final exams; the proportion varies from course to course - this information is listed in the course descriptions.

In addition to time spent on assignments, you should plan a minimum of an hour reading and working on problems for every hour of lectures.

Late assignments

For Statistics 10x and STATS 201/7/8, follow the procedures laid down in your course's Study Guide. For other courses, if for some reason you were unable to hand your assignment in on time, approach staff in the Student Resource Centre and ask for their advice. Depending on the time elapsed since the due date, arrangements may be made. If you missed the date owing to sickness or other medical reasons notify the staff at the Student Resource Centre. The lecturer in charge will be notified and your marks will be adjusted accordingly. Please note that you will be required to produce a medical certificate. Please note: Pressure of coursework is not an acceptable excuse for handing in an assignment late.

What to do if you cannot sit a mid-semester Test

For Statistics 10x and STATS 201/7/8, see the Course Administrator. For other courses, as soon as you find out that you will be unable to sit your test, approach your lecturer. Your lecturer may be able to arrange another time for you to sit your test, or make other arrangements for you.

If owing to exceptional circumstances (e.g. medical reasons) you miss a test, you will have to apply for special consideration. Application forms (SA46) for special consideration are available online, or from University Health Services and Examinations Office, and they are to be submitted within seven days of the test.

Please note: Pressure due to workload is not an acceptable excuse for missing tests.

Applications for Aegrotat and Compassionate consideration

An application may be made for aegrotat or compassionate consideration, by candidates who have been prevented from being present at an examination, or who consider that their preparation for or performance in an examination has been seriously impaired by temporary illness or injury or exceptional circumstances beyond their control. This also applies to tests, but not assignments.

Application forms are available online, or from University Health Services and Examinations Office.

The application form must be submitted to the University Health and Counselling Service within one week of the date that the examination affected took place, or if more than one examination has been affected, then within one week of the last of those examinations.

In the case of illness or injury, a registered medical practitioner must:

(i) State when the practitioner saw the candidate. This should be on the day of the examination, or if this is not possible, on the day before or the day after. For impaired preparation, the medical certificate should cover a period within the fortnight immediately preceding the examination, unless special circumstances apply.

(ii) Give sufficient detail of the illness or injury to show clearly that the candidate was not responsible for the illness or injury.

(iii) State whether, in the practitioner's opinion, the illness or injury of the candidate at the time either prevented the candidate from taking the examination, or was likely to have seriously impaired the candidate's preparation for it or performance in it.

Following the decision of Senate on an application for Aegrotat or Compassionate Consideration, a student may apply for reconsideration of that decision no later than four weeks after the student is notified of Senate's decision.

Please refer to *The University of Auckland Calendar* for the official regulations.

Academic honesty, cheating and plagiarism

Cheating is viewed as a serious academic offence by The University of Auckland. The University will not tolerate cheating, or assisting others to cheat. Penalties are set by the Discipline Committee of the Senate and may include suspension or expulsion from the University.

What is cheating?

Cheating, in the context of University coursework and examinations, is the act of attempting to gain an unfair advantage by violating the principle that lies behind all University work – that of intellectual and scholarly integrity.

Work students submit for grading – in coursework and examinations – must ultimately be their own work, reflecting each student's learning and performance. To cheat is to be intellectually dishonest by passing off as your own, work that has been done by someone else. It is also unjust in that it devalues the grades and qualifications gained legitimately by other students.

All staff and students have a responsibility to prevent, discourage and report cheating.

Examples of forms of cheating

- Copying from another student during a test or examination, whether or not there is collusion between the students involved;
- Using the work of other scholars or students when preparing coursework and pretending it is your own by not acknowledging where it came from. This is called plagiarism. Course coordinators, lecturers or tutors are the appropriate people with whom you should discuss how to use and acknowledge the work of others appropriately;
- Making up or fabricating data in research assignments, or the writing up of laboratory reports;

- Impersonating someone else in a test or examination, or arranging such impersonation;
- Submitting the same, or a substantially similar, assignment that you have done, for assessment in more than one course;
- Misrepresenting disability, temporary illness/injury or exceptional circumstances beyond one's control, then claiming special conditions;
- Using Material obtained from commercial essay or assignment services, including web-based sources.

Group work

On the whole, the University requires assessment of the work of individual students. On those rare occasions where the work of a group of students is assessed, group members need to make sure that the workload is shared equally. Course coordinators will determine their own procedures for dealing with cases where the final piece of work reflects unequal participation and effort.

Student support: 'getting help' vs cheating

Typically students cheat because they are having difficulty managing workloads, feel that the course content is too difficult or experience difficulties with the language of the course. None of these reasons are justification for cheating. There are many people and services at the University to assist students. Options of people to approach include:

- the course convenor/coordinator, lecturer, tutorial head, lab demonstrator
- Head of Department
- faculty-level official
- Student Learning Centre or Library staff
- AUSA or other students' association representatives
- health and counselling services staff.

Students should also consult the University's major academic referencing resource: www.cite.auckland.ac.nz

The following website provides further information about the key principles and practices underlying academic honesty, and related resources:

http://www.auckland.ac.nz/uoa/home/about/teaching-learning/honesty/

Admission and enrolment

New students

For ALL students, if you are not enrolled at The University of Auckland in 2009, apply online at www.auckland.ac.nz/apply_now. If you are unable to access our website, please call 0800 61 62 63 or visit the Student Information Centre at 22 Princes Street, Auckland. This is open Monday to Friday from 8am – 6pm and Saturday 9am – 12noon during peak times.

Student Information Centre
Room 112
Level 1 (Ground Floor)
The ClockTower Building
22 Princes Street
Auckland City Campus

Phone: 0800 61 62 63 (or +64 9 308 2386 for calls outside New Zealand)
Facsimile: + 64 9 367 7104
Email: studentinfo@auckland.ac.nz

The closing date for most undergraduate Science applications is 8 December 2009.

If you want to take courses at Summer School, or wish to apply to Sport and Exercise Science or the Bachelor of Optometry, applications close 1 December 2009.

Only one application is required.

After submitting your application:

Your application will be acknowledged by post, and you will receive your Net ID, password and a list of items required to evaluate your eligibility to be admitted to the University and to your chosen programme/s (if you are submitting a hard copy application form, you are required to include relevant documentation at the time of submission). When all documentation requirements have been met, your application will be assessed by the Admissions Office and relevant faculties. If your application is approved, you will receive an offer of place.

Your Net ID and password allow you to access the University's nDeva site, enabling you to monitor the progress of your application and check if further documentation is required.

Once you have accepted an offer of place, you will gain access to the Enrolment module on nDeva and you can then proceed to enrol in courses online. Postgraduate students may need to contact their department for enrolment to be completed.

Returning students

If you are currently enrolled at The University of Auckland in 2009, and would like to change your existing programme (for example MSc after completion of BSc(Hons)), you should apply on nDeva (www.auckland.ac.nz/nDeva) by logging on and clicking on Add/Change programme.

You will be able to enrol via nDeva, but if you would like help, please call 0800 61 62 63 or visit the Student Information Centre or the Faculty of Science Student Centre (Ground Floor, Building 301, 23 Symonds Street). Postgraduate students may need to contact their department for enrolment to be completed.

The University of Auckland will be open for enrolment from November 2009 to the end of February 2010. You are welcome to attend at any time during normal office hours to seek academic or enrolment advice or assistance in completing your enrolment.

Undergraduate enrolment - where to from here?

Enquire

Visit www.auckland.ac.nz or contact our student advisers for any information you need.
Phone: 0800 61 62 63 | **Email:** studentinfo@auckland.ac.nz
Student Information Centre: Room 112, ClockTower, 22 Princes St, Auckland

Apply for a place in a programme(s)

Do you have internet access, or can you come on to campus to our help labs? (Make sure you apply by the closing date)

Yes

- Log on to www.auckland.ac.nz
- Click on Apply Now.
- Complete the online Application for a place in your programme(s) of choice.
- You will receive an acknowledgement letter asking you to provide specific certified documents (and in some cases to complete other requirements*) before your application can be assessed. The letter will also tell you how to access the University's nDeva system to complete the next steps.

No

Phone: 0800 61 62 63
(or +64 9 308 2386 if overseas)

Email: studentinfo@auckland.ac.nz

The ClockTower Call Centre will forward required information to you.

Offer

Your application will be assessed and, if successful, an "Offer of a place in a programme" letter will be mailed to you. This normally happens from mid January.**

Accept

Accept or decline your offer of a place in a programme online. Remember – you still need to enrol in your courses!

Enrol in your choice of courses

For help with choosing courses you can:

- talk to staff for advice, and listen to talks on various programmes at Courses and Careers day on 29 August 2009
- refer to www.science.auckland.ac.nz or to publications relating to your programme, or to The University of Auckland Calendar. For programme publications call 0800 61 62 63. The Calendar is for sale in bookshops or can be accessed from www.auckland.ac.nz Click on "Current Students" then "University Calendar" in the Quick Links box
- go online to check the timetable for your chosen courses
- for more information visit the Faculty of Science Student Centre, Ground Floor, Building 301, 23 Symonds Street
- or call 0800 61 62 63.

Enrol in courses via the online nDeva system, using your login and password.

Pay your tuition fees.

You are now a University of Auckland student. Congratulations!

** For some programmes, you may be required to submit supplementary information (eg, a portfolio of work, referee reports, an online form) or to attend an interview/audition. If you have not already done this, any outstanding requirements will be explained in the acknowledgement letter – ensure that you follow them up as quickly as possible.*

*** You can also check the status of your application online using your login and password (if you don't know these, check the instructions on your acknowledgement letter). If you are not offered a place in the programme(s) of your choice, you will receive a letter outlining alternative options. Please follow the advice on the letter or get in touch with the ClockTower Call Centre. Your final offer of a place is dependent both on you gaining admission to the University (which for school leavers may be dependent on your final school results) and assessment by the faculty offering the programme.*

Academic programme structure

Points structure

From 2006, all courses were changed to a different points value. Students enrolled in a normal full time course of study now complete 120 points per year. The courses in most undergraduate degrees carry a value of 15 points and a normal full time enrolment is eight courses per year.

Transition points structure

Transition regulations apply to all students who have continued enrolment during the transition period having commenced study in their programme at this university prior to the 2006 academic year. They also apply to students who commence study in an undergraduate degree in the 2006 academic year having commenced but not completed study in a different undergraduate programme at this university between 2001 and 2005.

The Transition regulations were written to ensure that students are able to complete their qualification without disadvantage in terms of duration of study or the proportion of their qualification to be completed.

Transition regulations are available in the Transition Regulations Handbook. This handbook is available from the Science Faculty Student Centre, the Short Loans Library and online at www.auckland.ac.nz/currentstudents/academiclife.

General Education

Courses in General Education are a distinctive feature of University of Auckland bachelors degrees. General Education is aimed at producing graduates with flexibility, critical thinking skills, and an appreciation and understanding of fields outside of their usual area of study. The General Education programme consists of high quality, intellectually challenging courses taught by some of the University's best teachers and researchers.

BOptom students must take two General Education courses (30 points) in their degree. These can be taken at any time during the degree, but it may be preferable to take these in Year 2 and 3.

Students will choose General Education courses from schedules which list courses available to their particular degree. The schedules have been developed so that students will take General Education courses that allow them to explore areas of interest outside of their degree subjects. The General Education schedules are:

A) Music, Art and Contemporary Issues

B) Humanities and Social Sciences

C) Business and Society

D) Life Sciences

E) Physical Sciences

F) Mathematical and Information Sciences

G) Communication

H) Languages

The courses available to BOptom students will depend on the subjects in which they are enrolled. For example, students enrolled in a Biological Sciences course will not be able to take General Education courses from Schedule D Life Sciences.

In some cases, courses are available both as part of the General Education programme and as part of the portfolio of regular degree courses. If students are taking a dual purpose course as part of the General Education programme, they will enrol in the G version of the course (e.g. HISTORY 103G). The classes and programme of study will be the same for all students.

A General Education website, www.auckland.ac.nz/generaleducation can be accessed from the University webpage and enables students to view the courses available to them and provides the information needed for course selection.

The requirement for General Education applies to students who enrol at The University of Auckland from 2006 to begin their first undergraduate degree. Students enrolled prior to 2006 are not required to include General Education as part of their degree. Special arrangements will apply to students transferring from another tertiary institution with credit.

Students are encouraged to seek advice on General Education in their degree from the Science Students' Centre.

Postgraduate programmes

From 2006, most Masters programmes became one year degrees preceded by either a one year Bachelors Honours degree or a Postgraduate Diploma.

Doctoral students

Doctoral degrees remain essentially the same in structure and duration. The structure of the PhD is now recorded on the academic transcript in new points in accordance with the 120 points system.

Student Services

Students association

Auckland University Students' Association (AUSA) offers many services to support students and to provide discounted goods. AUSA runs training workshops for Class Representatives throughout the year and publishes a monthly newsletter available through the Department. Students may also contact a Student Advocate, the AUSA Education Coordinator or the Education Vice President regarding academic concerns. If interested in creating a club and receiving funding, contact the AUSA Clubs Liaison Officer. Phone 309 0789 or visit the AUSA House, 4 Alfred Street, across from the General Library on City Campus.

Students with disabilities

People with disabilities are encouraged to attend and accomplish at The University of Auckland. Lynne Crabb is the Coordinator for students and staff with disabilities and would like students with disabilities (both permanent and temporary) to contact her. She can offer current information on facilities available and ways in which they can be of assistance to you. They are located in Room 036, Basement Level, ClockTower, 22 Princes Street, and can be contacted on extension 88808, fax on 308 2354 or by email disabilities@auckland.ac.nz

Harassment

In the large and complex society of the University it is possible that students may encounter problems with the behaviour of staff or fellow students. If this behaviour is unwanted, unacceptable or offensive it may be harassment. University policy is that harassment on any grounds - including, but not restricted to sexual, racial, religious, and academic - is totally unacceptable. For informal and confidential assistance in dealing with harassment problems, students may approach any member of the Resolve Network (a list of their names can be found on posters displayed around campus) or the Mediator. For information and contact details, visit www.auckland.ac.nz/uoa/about/uoa/run/policies/antiharrass.cfm .

Welcome to the new WAVE in representation services for students!

WELFARE is a welfare referral service. If you're stressed, hungry or have exhausted your overdraft - we try to help! We have an onsite food bank and hardship funds that you can apply for. We can also put you in contact with the right people and agencies to provide you with the resources you need.

ADVOCACY is run by the Advocacy Manager with support from the Advocacy Assistant and the Student Advocacy Network (SAN). If you feel you have been treated unfairly or have a grievance with the University, WAVE provides a confidential, free service available to all students. They can advise on student rights and university procedures, assist in resolving disputes involving students or staff, and provide information and referrals. They can also provide general legal advice on issues such as tenancy, employment and many other areas of law. SAN hours are 10am - 12 noon every weekday during semester. You can also contact the Advocacy Manager and Advocacy Assistant on Phone 309 0789 ext 202 or 251.

VOICE is student representation - Class Reps and students on University committees. WAVE offers class rep training, class party funding, a class rep handbook and quarterly newsletters. They also organize the election, training and support of University Committee Reps. University committees set the direction for The University of Auckland, drafting policy and regulations. You can have your say through student committee reps. Check out their website at www.ausa.org.nz/wave for more details!

The **EDUCATION** Vice President (EVP) acts on wider educational issues that affect you. This may include submissions to the University and to central Government. Their role involves bringing concerns about education matters to the wider community.

WAVE is located in AUSA House, 4 Alfred Street (across from the General Library)

Contact us on
Phone: 309 0789 ext 251
Email: advocate@auckland.ac.nz

Check out our web page at
www.auckland.ac.nz/wave

Careers

Careers advice

A science degree from The University of Auckland will give you a foundation of knowledge and skills that can lead to a wide range of career opportunities. Our graduates begin their careers in research organisations, local government, central government, universities, commerce and industry, international and community organisations. You may begin your career in a science position, or in a position that is not directly science related but where your science knowledge and skills are of benefit.

The University Careers Centre can assist you with your career planning and job search throughout the course of your studies. The Careers Centre provides assistance to science students through careers information and advice, job search and career research workshops in the Careers Centre, plus seminars and a drop-in service at a variety of times and locations in the Science faculty. For more details please see our website www.auckland.ac.nz/careers.

Careers.Sci

Make sure you visit Careers.Sci, an online career planning programme customised for Science students that will allow you to manage and plan your career. Log on to Cecil (cecil.auckland.ac.nz) and check it out!

www.auckland.ac.nz/careers

For job vacancies and information on current graduate career opportunities, visit http://careerhub.auckland.ac.nz, which also advertises employer presentations on campus. The Careers Centre is located in Room 001 of The ClockTower, 22 Princes Street, and at Tamaki Campus. Please check the careers website for information about opening hours.

Improve your English language skills

All first-year students are required to undertake an assessment that enables us to identify your level of academic English. This free assessment is available via DELNA.

Diagnostic English Language Needs Assessment (DELNA)

DELNA is only available to students who have accepted a place and enrolled at The University of Auckland. It cannot be used to exclude you from a particular programme and the results do not appear on your academic record.

The screening is a 30 minute compulsory assessment that includes a vocabulary task and a text editing task. It enables us to quickly identify whether or not you need assistance with the demands of academic English. If you do require assistance, you will undertake the second part of the assessment.

You should book your screening assessment during Orientation Week or the first week of semester by going online to: www.delna.auckland.ac.nz/booking

The diagnosis is only necessary if your screening results suggest you need assistance with academic English language skills. This two-hour assessment includes a listening, reading and writing task. It enables us to recommend appropriate English language enrichment options.

If you do need to improve your skills, you will be invited to discuss your needs with the DELNA Language Adviser and guided to sources of effective English language enrichment within the University.

For more information visit
www.delna.auckland.ac.nz

English Language Self Access Centre (ELSAC)

ELSAC is the place where you can:

- Get advice about your particular English language needs for university study
- Use a huge variety of English language resources
- Come any time for as long as you like, Monday to Friday between 9am and 5pm. Visit the ELSAC space, real and virtual, and chat to Siew, Rebecca or Penny – we're all experienced English language teachers.

ELSAC services are free for as long as you are enrolled at The University of Auckland.

ELSAC

Level 1, Kate Edger Information Commons
Phone: +64 9 373 7599 ext 82134
Email: elsac@auckland.ac.nz
For more information visit
www.elsac.auckland.ac.nz

Information Commons

Designed as information hubs, the Information Commons give you computer access and learning support, as well as providing group and individual study areas. You'll find these facilities at our City, Grafton and Epsom campuses.

Use one of the Information Commons computers or laptops to access your coursework through Cecil (the University's e-learning system), send email and browse the Internet, and to complete coursework using MS Office, Adobe Master Collection and other software. You can retrieve information from the library databases, e-journals, e-books and electronic course materials - including recommended readings. You also have access to printers, scanners and photocopiers. Wireless networking technology is available.

At the Kate Edger Information Commons on the City Campus you will find computer training rooms, the Student Learning Centre, a Disabilities Resource room, the Library's Short Loan service and the English Language Self-Access Centre (ELSAC).

The IC Helpdesks provide walk-in, roaming, email and telephone support with all aspects of student computing resources and services. If you want to develop your IT and information literacy you can attend a training course, use electronic resources on the Library and Information Commons web sites or ask a staff member for help.

Information Commons
Phone: 373 7599 ext 82333
Email: ichelpdesk@auckland.ac.nz
www.information-commons.auckland.ac.nz

Student Learning Centre

The Student Learning Centre (SLC) can help you achieve academic success. Workshops and consultations are offered by academically qualified and experienced tutors.

Once you are registered with the SLC, you can use the SLC's services for the whole academic year.

Appointments for individual consultations are available and can be made by contacting the SLC.

SLC (City Campus)
Level 3, Kate Edger Information Commons
Phone: +64 9 373 7599 ext 88850

SLC (Tamaki Campus)
Resource Centre, Building 710.1
Phone: +64 9 373 7599 ext 86665

University Library Te Tumu Herenga

The University Library consists of the General Library and 12 subject-specific libraries with over 2.2 million volumes, a world-class digital library collection, 4700 study spaces with 1100 of those providing access to computer.

General Library

Most science serials are now available electronically. The majority of the science book collection is shelved on Level M where you will also find printed serial collections for biology, marine science, chemistry, computer science, food science, geology, physics, mathematics and statistics. Geography, computer science and psychology serials are shelved with the book collection.

Tamaki Library has resources in computer science, physics, psychology and sport and exercise science.

Leigh Marine Research Laboratory Library has marine science resources.

Courses, tours and training

Tours and hands-on courses will give you the confidence to use the University Library, its Information Commons service and all its resources. If you are a new student, the following courses are recommended:

Library and Resources Overview: an introduction to the University Library resources and services.

Database Searching: how to choose and use databases.

Uni IT Essentials: covers University IT facilities, Netaccount and NetID, Cecil, Webmail, wireless and other electronic resources.

To book a Library course visit www.library.auckland.ac.nz/booking

Services

Other Library services include Ask a Librarian Service, Enquiry Desk, Information Commons Help Desk, Inter-Campus Library Delivery Service, Interlibrary Loan and Document Delivery and the Short Loan Collection.

Subject Librarians

Visit the subject librarians in Science Information Services on Level M. Consultation sessions are available during visits made by the Subject Librarian to the Department.

Statistics Subject Librarian

Michael Parkinson
Room M13, Level M, General Library
Phone: 373 7599 ext 85858
Email: m.parkinson@auckland.ac.nz

Borrowing and accessing resources

Your student ID card is your Library card. Use it to access the photocopiers, printers and to borrow items. You also have 24-hour access via the Library website.

General Library
5 Alfred Street, City Campus
Phone: 373 7599 ext 88044
www.library.auckland.ac.nz

Important Locations

Student Resource Centre, City Campus

Students' main contact with the Statistics Department will be through the Student Resource Centre which is located in G16, SciSpace, Ground Floor of the Science Centre, Building 303, 38 Princes Street.

Department of Statistics office

At the Student Resource Centre you may be directed to the Statistics Departmental Office. This is located on the second floor of the Science Centre, Building 303, Room 203 (ext 86893 or 87510) straight opposite the lifts.

Offices of Statistics Department lecturers

These are located along the main corridor of the second floor of the Science Centre, Building 303.

Mathematics and Statistics computer laboratories

The main Comrie laboratory is located in the basement of the Building 303.

Assistance room

This is located on the ground floor of the Science Centre, Building 303 in room G16, SciSpace, beyond the Student Resource Centre.

Tamaki Campus

The Tamaki Campus is located at the corner of Merton and Morrin Roads in Glen Innes. (There are free buses for students with courses at the Tamaki campus which leave from the City Campus and Tamaki Campus approximately every hour, operating on a reduced schedule during the holiday period. The buses depart from Alfred Street, outside the General Library on the City Campus at five minutes past the hour and depart from in front of building 723 at the Tamaki Campus at thirty-five minutes past the hour). The Tamaki Library is in Building 710.2 near the south entrance to the Campus.

Main Library

The main library is found at 5 Alfred Street.

Lecture Theatre Locations	
Within the Science Centre	
B08	Small Tutorial room in the basement of the Science Centre Building 303
G16	SciSpace, Student Resource Centre and Assistance Area, Science Centre, Building 303 (ground floor)
MLT 1	Large Mathematics Lecture Theatre, Science Centre Building 303 (ground floor)
MLT 2	Second Mathematics Lecture Theatre, Science Centre Building 303 (first floor)
MLT 3	Third Mathematics Lecture Theatre, Science Centre Building 303 (first floor)
PLT1	Large Physics Lecture Theatre, Science Centre Building 303 (ground floor)
PLT2	Second Physics Lecture Theatre, Science Centre Building 303 (ground floor)
PLT3	Small Physics Lecture Theatre 3, Science Centre Building 303 (basement)
PLT4	Small Physics Lecture Theatre 4, Science Centre Building 303 (basement)
SLT1	Science Lecture Theatre, Science Centre Building 303 (ground floor)
Others	
ALR	Architecture Lecture Room, Architecture Building, 22 Symonds Street
Arts	Arts1 Building, 14A Symonds Street
BLT100	Biology Building Room 100, 5 Symonds Street
BLT204	Biology Building Room 204, 5 Symonds Street
CA	Commerce A, 3A Symonds Street
CB	Commerce B, 5 Symonds Street
CC	Commerce C, 18 Symonds Street
Chem	Chemistry Building, (corner Symonds and Wellesley Streets) 23 Symonds Street) contains the Large and Medium Lecture Theatres (LgeChem, MedChem)
Conf Cen	Conference Centre, 22 Symonds Street Eng Engineering School, 20 Symonds Street HSB
Lib B10/B10	Library Building Basement Theatre 10, 5 Alfred Street
Lib B15/B15	Library Building Basement Theatre 15, 5 Alfred Street
Lib B28/B28	Library Building Basement Theatre 28, 5 Alfred Street
Law	Law Buildings, 5-17 Eden Crescent contains Stone, Algie, Northey and Small Lecture Theatres
LargeChem	Large Lecture Theatre, Ground Floor Chemistry Building
MedChem	Medium Lecture Theatre, Ground Floor Chemistry Building
OCH	Old Choral Hall, corner Symonds and Alfred Streets, 7 Symonds Street
OldGovLT	Old Government House Lecture Theatre, 3A Symonds Street
OGGB 3/4/5	Owen G Glenn Building, 12 Grafton Road
F&PAA	Fisher and Paykel Appliances Auditorium, 12 Grafton Road
HSB 1/2	Human Sciences Building, 10 Symonds Street

Student support services

Service	Location	Phone
Accommodation and Conference Services	O'Rorke Hall, 16 Mount Street	+64 9 373 7599 ext 87691 accom@auckland.ac.nz www.auckland.ac.nz/accommodation
Careers Centre	Room 001, The ClockTower	+64 9 373 7599 ext 88727 careers@auckland.ac.nz www.auckland.ac.nz/careers
Early Childcare Services	28 Park Avenue, Grafton	+64 9 373 7599 ext 85894
Chaplain's Office	18 Princes Street	+64 9 373 7599 ext 87732 chapelsec@auckland.ac.nz
Disability Services	Room 036, The ClockTower (south wing)	+64 9 373 7599 ext 82936 disabilities@auckland.ac.nz
Mediator's Office		+64 9 373 7599 ext 88905 mediation@auckland.ac.nz www.auckland.ac.nz/mdr
Equal Opportunities	Level 1, The ClockTower (East Wing)	+64 9 373 7599 ext 84923 www.eo.auckland.ac.nz
Student Finance	Room 108, The ClockTower	+64 9 373 7599 ext 84422
Health Services (including counselling)	Level 3, Student Commons	+ 64 9 373 7599 ext 87681
Dental Services	Level 3, Student Commons	+64 9 373 7599 ext 83860
International Students' Information Centre	Auckland International Old Choral Hall	+64 9 373 7513 int-questions@auckland.ac.nz www.auckland.ac.nz/international
Recreation Centre	Building 314, 17 Symonds Street	+64 9 373 7599 ext 84788 www.auckland.ac.nz/recreation
Scholarships Office	Room 012, The ClockTower	+64 9 373 7599 ext 87494 scholarships@auckland.ac.nz www.auckland.ac.nz/scholarships
Student Advocacy Network	AUSA House 3 Alfred Street	+64 9 309 0789 ext 251 advocate@auckland.ac.nz www.auckland.ac.nz/wave
Student Information Centre	Room 112, The ClockTower	0800 61 62 63 +64 9 373 7599 ext 88199 studentinfo@auckland.ac.nz
Student Learning Centre	Level 3 Information Commons	+64 9 373 7599 ext 88850 slc@auckland.ac.nz www.slc.auckland.ac.nz
Student loans and allowances	StudyLink	0800 88 99 00 www.studylink.govt.nz
Student Resource Centre	G16, SciSpace, Ground Floor, Building 303	+64 9 373 7599 ext 85510 src@math.auckland.ac.nz www.science.auckland.ac.nz
Students' Association	AUSA, 4 Alfred Street	+64 9 309 0789 ausa@auckland.ac.nz www.ausa.auckland.ac.nz
University Book Shop (UBS)	Kate Edger Building	+64 9 306 2700 www.ubsbooks.co.nz

Glossary

The following are terms often used to describe aspects of the university system.

Points system

Each Bachelor's degree BSc, BA, and BCom is composed of 360 points. Precisely how the 360 points are to be made up differs slightly between Faculties. All Statistics courses are 15 point courses.

Conjoint degree

A special programme of study in which students study for two Bachelor's degrees concurrently.

Corequisite

A course which should be taken in the same semester as another, unless it has previously been satisfactorily completed.

Coursework marks /credit for coursework

During the semester, you will have to do assignments and sit tests. Marks for these activities that can count towards the final grade are called coursework marks. "Credit for coursework" is the number of marks out of the 100% making up the final grade which are taken from coursework.

Limited entry course

A course for which the number of students that can be accepted is limited because of constraints on resources (such as the availability of staff and/or teaching and laboratory space).

Major

A specified compilation of courses required in a subject or programme taken to the highest stage for a particular certificate, diploma or degree.

Plussage

A system by which students are credited with a final result for the year, which is either the final examination grade, or a combination of final grade plus coursework, whichever is to the advantage of the student. Some form of plussage is operated in many Statistics courses.

Prerequisite

A course at Stage 2 or above will normally require you to have passed other lower courses before you can enrol. These required courses are called prerequisites. (See also corequisite above.)

Restricted course

A course in which the learning objectives, content and/or assessment are so similar to a second course that a student should not be credited with both towards a certificate, diploma or degree. In some cases a restricted course may be taken and credited as COP.

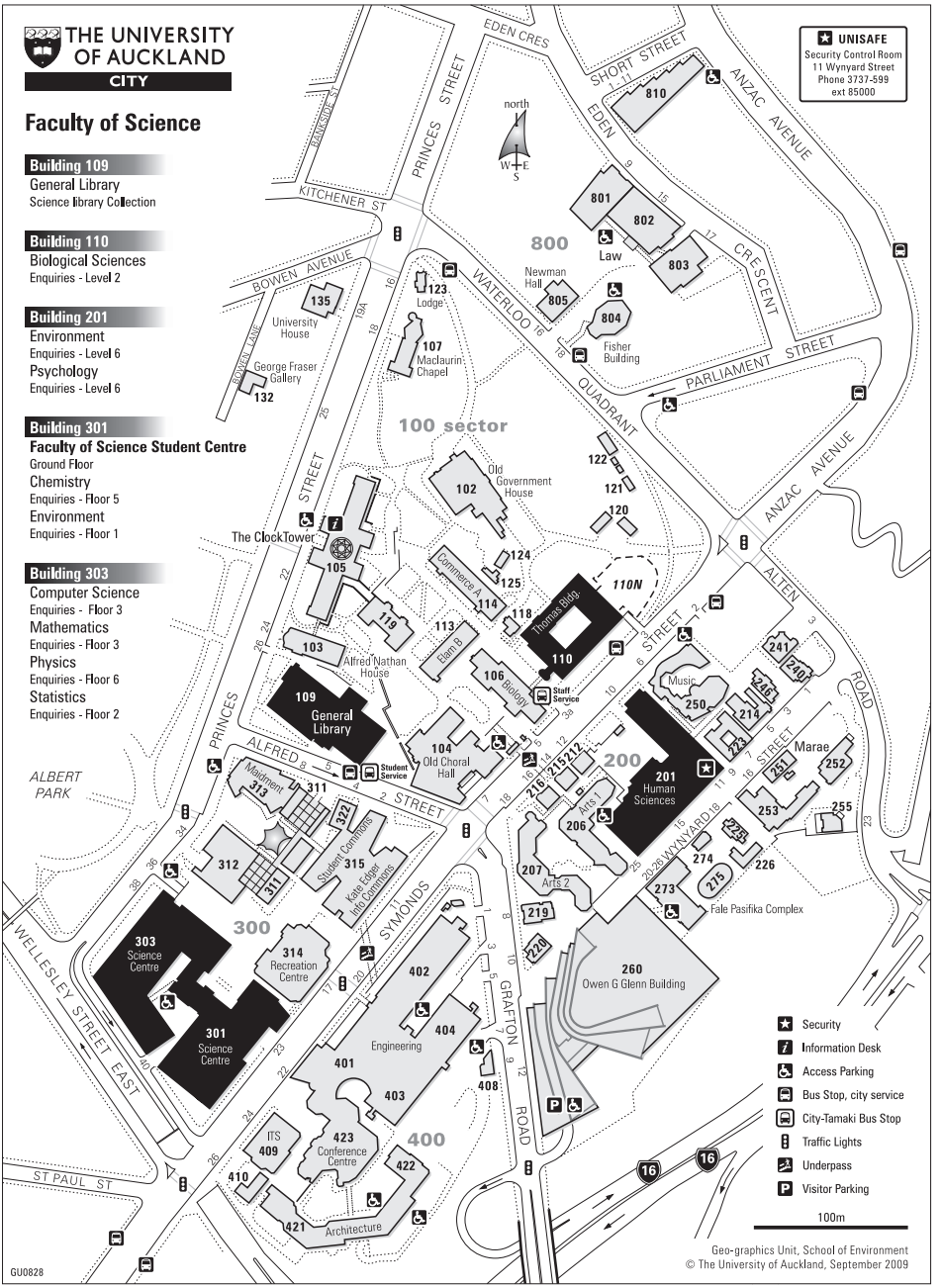
Streaming

If you are enrolling in undergraduate courses in the Arts, Commerce, Law or Science Faculties a computer programme will assign you to specific lecture, laboratory and tutorial times (streams). The programme takes into account all the courses in which you have enrolled, provided you enrolled at the appropriate time.

Staff directory

	Ext	Room	Email
Head of Department			
Chris Triggs	88856	201	cm.triggs@auckland.ac.nz
Departmental Manager			
McDonald, Karen	87483	202	k.mcdonald@auckland.ac.nz
Financial / Administration Officer			
Miliotis, Alexandra	86893	203	a.miliotis@auckland.ac.nz
Administration Assistant			
Wong, Nancy	87510	203	nancy.wong@.auckland.ac.nz
City Staff			
Balemi, Andrew	85713	263	balemi@stat.auckland.ac.nz
Browning, Sharon	88745	220	browning@stat.auckland.ac.nz
Budgett, Stephanie	85756	225	budgett@auckland.ac.nz
Cumming, Joss	85756	225	s.browning@auckland.ac.nz
Curran, James	88755	267	curran@stat.auckland.ac.nz
Fewster, Rachel	83946	206	fewster@stat.auckland.ac.nz
Forster, Mike	88759	292	m.forster@auckland.ac.nz
Guindon, Stephane	82755	211	s.guindon@auckland.ac.nz
Holmes, Mark	88679	218	mholmes@stat.auckland.ac.nz
Ihaka, Ross	85054	275	ihaka@stat.auckland.ac.nz
Kojadinovic, Ivan	83785	221	ivan@stat.auckland.ac.nz
Lee, Alan	88749	265	aj.lee@auckland.ac.nz
McArdle, Brian	85845	213	b.mcardle@auckland.ac.nz
Metcalf, Patricia	82317	290	p.metcalf@auckland.ac.nz
Meyer, Renate	85755	210	r.meyer@auckland.ac.nz
Millar, Russell	85003	211	r.millar@auckland.ac.nz
Miller, Arden	85053	208	a.miller@auckland.ac.nz
Miller, Christine	84275	204	c.miller@auckland.ac.nz
Murrell, Paul	85392	273	p.murrell@auckland.ac.nz
Nathan, Garry	84931	311	nathan@math.auckland.ac.nz
Parsonage, Ross	89623	224	r.parsonage@auckland.ac.nz
Pfannkuch, Maxine	88794	310	m.pfannkuch@auckland.ac.nz
Pritchard, Geoffrey	87400	212	g.pritchard@stat.auckland.ac.nz

	Ext	Room	Email
Regan, Matt	85242	205	m.regan@auckland.ac.nz
Scott, Alastair	88751	228	scott@stat.auckland.ac.nz
Scott, David	85055	269	d.scott@auckland.ac.nz
Smith, David	85390	226	dp.smith@auckland.ac.nz
Solomon, Wiremu	88771	209	solomon@stat.auckland.ac.nz
Stewart, Wayne	83763	294	w.stewart@auckland.ac.nz
Wang, Yong	84700	271	yongwang@stat.auckland.ac.nz
Wild, Chris	88797	214	wild@stat.auckland.ac.nz
Wingfield, Susan	84934	288	susanw@stat.auckland.ac.nz
Yee, Thomas	88811	207	t.yee@auckland.ac.nz
Ziedins, Ilze	85051	277	ilze@stat.auckland.ac.nz
Computing / Technical Staff			
Cope, Stephen	89621	205	s.cope@stat.auckland.ac.nz
Student Resource Centre			
Liow, Li Liet	89378	G16	lily@math.auckland.ac.nz
Venugopalan, Jaya	85510	G16	jaya@math.auckland.ac.nz
Unisafe, 24 Hour Service	85000		
Unisafe, Emergency	966		


THE UNIVERSITY OF AUCKLAND
CITY
Faculty of Science
Building 109
General Library
Science library Collection
Building 110
Biological Sciences
Enquiries - Level 2
Building 201
Environment
Enquiries - Level 6
Psychology
Enquiries - Level 6
Building 301
Faculty of Science Student Centre
Ground Floor
Chemistry
Enquiries - Floor 5
Environment
Enquiries - Floor 1
Building 303
Computer Science
Enquiries - Floor 3
Mathematics
Enquiries - Floor 3
Physics
Enquiries - Floor 6
Statistics
Enquiries - Floor 2
UNISAFE
Security Control Room
11 Wynyard Street
Phone 3737-599
ext 85000
north
EDEN CRES
SHORT STREET
ANZAC AVENUE
PRINCES STREET
KITCHENER ST
BOWEN AVENUE
WATERLOO QUADRANT
PARLIAMENT STREET
EDEN CRESCENT
ALFRED STREET
ALBERT PARK
WELLESLEY STREET EAST
ST PAUL ST
SYMONDS STREET
GRAFTON ROAD
ALTEN ROAD
WYNYARD
800
100 sector
200
300
400
Law
Newman Hall
Fisher Building
Lodge
University House
George Fraser Gallery
Maclaurin Chapel
Old Government House
The ClockTower
Commerce A
Commerce B
Thomas Bldg
Alfred Nathan House
Biology
Staff Service
General Library
Student Service
Old Choral Hall
Madrigal
Student Commons
Kate Edger Info Commons
Science Centre
Recreation Centre
Engineering
Conference Centre
ITS
Architecture
Human Sciences
Arts 1
Arts 2
Marae
Music
Fale Pasifika Complex
Owen G Glenn Building
Security
Information Desk
Access Parking
Bus Stop, city service
City-Tamaki Bus Stop
Traffic Lights
Underpass
Visitor Parking
100m
Geo-graphics Unit, School of Environment
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