

School of Economics and Finance  
**QUAN 102 STATISTICS FOR BUSINESS**

Summer Trimester 2005

**COURSE OUTLINE**

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**Lecturers:** Dr John Randal, RH308, phone 463-5558 (coordinator)  
contact by email preferred at: John.Randal@vuw.ac.nz  
Ms Cushla Thomson, RH322, phone 463-5787  
contact by email preferred at: Cushla.Thomson@vuw.ac.nz

**Lecture times:** Wednesday, 1000-1150, KKLT 303  
Thursday, 1000-1150, KKLT 303

**Tutorial time:** One from: Thursday, 1210-1300, 1310-1400, 1410-1500,  
1510-1600, 1610-1700, CO 341

The Director of all School of Economics and Finance 100-level Programmes is Mrs Penelope de Boer, RH 319, phone 463-5818 (or ext. 5818). She will handle the allocation of students to tutorial groups and the recording of information such as assignment, test and exam marks. All administrative queries concerning assignments or tutorials should be directed to Mrs de Boer. Check Blackboard for her office hours.

The Course Coordinator is John Randal. He has overall responsibility for the course. You should see him if you are having difficulties that you have been unable to resolve by first speaking to your lecturer or tutorial supervisor (for academic problems), or to Mrs de Boer (for administrative problems). Dr Randal is also the person to see if you need to make special arrangements because of a disability, or if you want to appeal your test mark or terms result.

You can find Blackboard at <http://www.blackboard.vuw.ac.nz/> - if QUAN 102 does not appear, please email Dr Randal or Mrs de Boer (Penelope.deBoer@vuw.ac.nz) immediately, with your SCS username.

**Course Objectives**

The course is an introduction to techniques of probability and statistics which are useful in business research or practice. The emphasis is on applications, rather than proofs, but some understanding of the concepts and an ability to communicate the meaning of the results is vital. By the end of the course students should be able to:

- Identify the relevant statistical approach(es) for a wide variety of practical problems.
- Conduct basic statistical analysis as required to address particular questions.
- Communicate the conclusions from an analysis to people who are unfamiliar with statistical terminology.
- Display an awareness of the assumptions on which particular statistical techniques depend and communicate that awareness to non-specialists.

## Readings

The text is Clark, Megan and Randal, John (2004) *A First Course in Applied Statistics with Applications in Biology, Business and Social Sciences*, ISBN 1877258903 (VUW Library call number QA276 C594 F). This is available from the Victoria Book Centre for \$49.95. Tutorial and assignment problems will be set from this book, and it contains tables which will be essential during the course. Second hand copies may be available.

Complementary books which might provide useful alternative explanations and practice exercises are:

- P. Belgrave and C. Jeffcoat (2004) "Statistics for Business", Thomson (HF1017 B429 S).
- D.S. Moore and G.P. McCabe (2003) *Introduction to the Practice of Statistics* (4th ed.) W.H. Freeman: New York (QA276.12 M821 I 4ed).
- D.A. Lind, W.G. Marchal and S.A. Wathen (2005) *Statistical Techniques in Business and Economics* (12th ed.) Irwin: Homewood, Illinois (HA29 L742 S 12ed).

The VUW library has a web page that contains detailed information about available library resources and has links to several other sites.

Its URL is <http://www.vuw.ac.nz/library>

## Materials and Equipment

You must have a calculator that evaluates powers and has statistical options, including the evaluation of means and standard deviations. Correlation and regression options are useful, but not vital. (The recommended model is a modern Casio fx-82 - older versions of this model did not do regression, RRP approx \$30). Calculators will be essential for the test and the final exam, however, they must be silent in operation and have their own power source. Graphics calculators and programmable calculators are permitted, but the advanced features of these models will not be necessary or useful in this course. All programmable calculators must be reset prior to the test and exam.

## Assessment Requirements

Your course mark will be a weighted average, made up as follows:

Test: 25% Exam: 75%

A ninety minute test covering lectures 1-20 (Wednesday 9 November to Thursday 8 December, inclusive) will be held during the lecture time, Wednesday 14 December. The final exam will be scheduled by the university in the summer trimester examination period, 13-19 February, 2006.

## **Tutorials and Assignments**

Weekly tutorials are not compulsory, but will give you the chance to ask questions about the current material. Exercises will be prescribed on Blackboard, and these should be attempted before the tutorial you attend. Bring your textbook and calculator.

A weekly assignment will be issued, which should be submitted by 10am the following Wednesday morning. There will be 10 weekly assignments, the first of which will be due in week 2. The questions will generally be taken directly from the textbook, and will be put on Blackboard. The assignments will be given one of three marks:

- 0, indicating the assignment is of unacceptable quality
- 1, indicating reasonable understanding/accuracy, but some flaws or omissions
- 2, indicating a perfect or near-perfect assignment.

While a total of 5/20 is *required* for terms, a mark of less than 10/20 would indicate that you may struggle to pass the test and/or final exam.

Place your work in the appropriately labelled slot in the cabinet outside MY 221 on the second floor of Murphy. Discussion of assignments with other students is allowed, but submitted work should be your own. Copied work (for all involved parties) will count as having been missed.

Head your assignments with your NAME, and the TIME of your tutorial. SECURE all sheets together and DO NOT FOLD your assignments or seal them shut. DO NOT put your work in a plastic sleeve. Assignments not meeting these conditions, or which are late, may not be marked. Marked assignments will be returned only at the tutorial of the following week. Uncollected assignments will be disposed of at the end of the course.

## **Penalties**

Missed assignments will be given a zero mark.

## **Mandatory course requirements**

A provisional terms list will be posted by Friday 10 February. For terms you must:

- receive at least 5 out of 20 for the 10 assignments
- complete both sets of computer tutorial exercises
- sit the term test

If your performance in the test or assignments is affected by ill health you should take a medical certificate to Mrs de Boer as soon as possible. Students denied terms may appeal to Dr Randal. For your appeal to have any chance of success, you must present evidence of special circumstances that caused you to fail terms. If you are denied terms and sit the final exam, you will still fail the course (with a Q grade).

## Course content

The following is the timetable for the course. The lecture schedule is as follows, with chapter references to Clark and Randal. You should prepare for each lecture by scanning the indicated text book sections - do not try to read it in detail until *after* the lecture.

Week	Dates	Topic	Text
1	9 Nov	Introduction; motivation; examples of statistics in use	1
1	10 Nov	Variables; processing data; stemplots, histograms; barcharts	2
2	16 Nov	Summary statistics; boxplots	3
2	17 Nov	Scatterplots; correlation; regression	4
3	23 Nov	Introduction to probability	5.1-5.3
3	24 Nov	Probability; Bayes' rule	5.3-5.4
4	30 Nov	Probability distributions; binomial experiments; proportions	6
4	1 Dec	Normal distribution; CLT; application to binomial	7
5	7 Dec	Intro to inference; intervals and tests for a single mean	8.1
5	8 Dec	Small sample tests for a mean; sign test	8.2-8.3
6	14 Dec	TEST	
6	15 Dec	No lectures	
7	21-22 Dec	No lectures	
<i>Christmas mid-trimester break, 2 weeks</i>			
8	4-5 Jan	No lectures	
9	11 Jan	Revision; inference for a proportion; FPCF; margin of error	8.4-8.6
9	12 Jan	Comparing two means	9.1-9.2
10	18 Jan	Comparing two variances; Mann-Whitney	9.3-9.4
10	19 Jan	Paired comparisons; proportions; FPCF	9.5-9.7
11	25 Jan	One-way $\chi^2$ ; goodness of fit	11.1
11	26 Jan	Contingency table testing	11.2
12	1 Feb	Regression testing; prediction	12
12	2 Feb	$F$ -tests in a regression context; sampling	10.1.2
13	8 Feb	Wrap-up and revision	13
13	9 Feb	Revision	

Lecture materials will be supported by practice in the weekly tutorials, and through the assignments. Specific tutorial and assignment exercises will be distributed via Blackboard, and will be available prior to the Wednesday lecture each week. You should try the problems in advance of attending the tutorial. The assignment, due the following Wednesday morning, will allow further practice of these skills.

## Communication of additional information

Additional information or information on changes will be posted on Blackboard. Some information may be emailed to you via your SCS address, so check this regularly. (This is your University email address.)

## **Faculty of Commerce and Administration Offices**

### Railway West Wing (RWW) - FCA Student Administration Office

The Student Administration Office is located on the ground and first floors of the Railway West Wing. The ground floor counter is the first point of contact for general enquiries and FCA forms. Student Administration Advisers are available to discuss course status and give further advice about FCA qualifications.

### Easterfield (EA) - FCA/Law Kelburn Office

The Kelburn Campus Office for the Faculties of Commerce & Administration and Law is situated in the Easterfield Building - it includes the ground floor reception desk (EA005) and offices 125a to 131 (Level 1). The office offers the following:

- Information concerning administrative and academic matters.
- FCA Student Administration forms (e.g. application for academic transcripts, requests for degree audit, COP requests).
- Examinations-related information during the examination period.

Please note:

There will be a Student Administration Adviser, from the RWW office, based in EA005 from Monday 7 November to Thursday 22 December and from Wednesday 4 January to Friday 17 February (9:00 am to 12:15 pm).

## **General University policies and statutes**

Students should familiarise themselves with the University's policies and statutes, particularly those regarding assessment and course of study requirements, and formal academic grievance procedures.

## **Student Conduct and Staff Conduct**

The Statute on Student Conduct together with the Policy on Staff Conduct ensure that members of the University community are able to work, learn, study and participate in the academic and social aspects of the University's life in an atmosphere of safety and respect. The Statute on Student Conduct contains information on what conduct is prohibited and what steps can be taken if there is a complaint. For queries about complaint procedures under the Statute on Student Conduct, contact the Facilitator and Disputes Advisor. This Statute is available in the Faculty Student Administration Office or on the website at:

<http://www.vuw.ac.nz/policy/StudentConduct>.

The policy on Staff Conduct can be found on the VUW website at:

<http://www.vuw.ac.nz/policy/StaffConduct>.

## **Academic Grievances**

If you have any academic problems with your course you should talk to the tutor or lecturer concerned or, if you are not satisfied with the result of that meeting, see the Head of School or the Associate Dean (Students) of your Faculty. Class representatives are available to assist you with this process. If, after trying the above channels, you are still unsatisfied, formal grievance procedures can be invoked. These are set out in the Academic Grievances Policy which is published on the VUW website:

<http://www.vuw.ac.nz/policy/AcademicGrievances>.

## **Academic integrity and plagiarism**

Academic integrity is about honesty – put simply it means **no cheating**. All members of the University community are responsible for upholding academic integrity, which means staff and students are expected to behave honestly, fairly and with respect for others at all times.

Plagiarism is a form of cheating which undermines academic integrity. Plagiarism is **prohibited** at Victoria.

The University defines plagiarism as follows:

Plagiarism is presenting someone else's work as if it were your own, whether you mean to or not.

*'Someone else's work' means anything that is not your own idea, even if it is presented in your own style. It includes material from books, journals or any other printed source, the work of other students or staff, information from the Internet, software programmes and other electronic material, designs and ideas. It also includes the organization or structuring of any such material.*

### ***Plagiarism is not worth the risk.***

Any enrolled student found guilty of plagiarism will be subject to disciplinary procedures under the Statute on Student Conduct (<http://www.vuw.ac.nz/policy/studentconduct>) and may be penalized severely. Consequences of being found guilty of plagiarism can include:

- an oral or written warning
- suspension from class or university
- cancellation of your mark for an assessment or a fail grade for the course.

Find out more about plagiarism and how to avoid it, on the University's website at: <http://www.vuw.ac.nz/home/studying/plagiarism.html>.

## **Students with Disabilities**

The University has a policy of reasonable accommodation of the needs of students with disabilities. The policy aims to give students with disabilities an equal opportunity with all other students to demonstrate their abilities. If you have a disability, impairment or chronic medical condition (temporary, permanent or recurring) that may impact on your ability to participate, learn and/or achieve in lectures and tutorials or in meeting the course requirements, then please contact the Course Coordinator as early in the course as possible. Alternatively you may wish to approach a Student Adviser from Disability Support Services to confidentially discuss your individual needs and the options and support that are available. Disability Support Services are located on Level 1, Robert Stout Building, or phoning 463-6070, email: [disability@vuw.ac.nz](mailto:disability@vuw.ac.nz). The name of your School's Disability Liaison Person can be obtained from the Administrative Assistant or the School Prospectus.

## **Student Support**

Staff at Victoria want students' learning experiences at the University to be positive. If your academic progress is causing you concern, please contact the relevant Course Co-ordinator, or Associate Dean who will either help you directly or put you in contact

with someone who can.

The Student Services Group is also available to provide a variety of support and services. Find out more at [http://www.vuw.ac.nz/st\\_services/](http://www.vuw.ac.nz/st_services/) or email [student-services@vuw.ac.nz](mailto:student-services@vuw.ac.nz).

VUWSA employs two Education Coordinators who deal with academic problems and provide support, advice and advocacy services, as well as organising class representatives and faculty delegates. The Education Office is located on the ground floor, Student Union Building, phone 463-6983 or 463-6984, email [education@vuwsa.org.nz](mailto:education@vuwsa.org.nz).

### **Māori and Pacific Mentoring programme (Manaaki Pihipihinga)**

This is a free programme of mentoring for Māori and Pacific students doing first year courses within the Faculty of Commerce and Administration. Weekly one hour mentoring sessions: drafting and editing assignments/discussing any questions that you might have from tutorials or lectures and going over every aspect of essay writing, either in small group sessions or on a one-to-one basis.

This includes:

- A computer suite hooked up to cyber commons for students to use to produce their assignments.
- Regular skill-based workshops with a learning adviser from Student Learning Support Services.
- Networking with other Māori and Pacific support groups throughout the university.

For more information please contact:

Melissa Dunlop, Programme Coordinator

Ph: 463-6015 or Email: [Maori-Pacific-Mentoring@vuw.ac.nz](mailto:Maori-Pacific-Mentoring@vuw.ac.nz)