



School of Economics and Finance
QUAN 102 STATISTICS FOR BUSINESS

Trimester 1 2007

COURSE OUTLINE

Lecturers:

- Adrian Slack, RH315, phone 472-1000 ext 8571 (L1-18, 8am)
contact by email preferred at: adrian.slack@vuw.ac.nz
- Ganesh Nana, phone 931-9206 (L1-18, 1pm)
contact by email preferred at: ganesh.nana@berl.co.nz
- John Randal, RH308, phone 463-5558 (coordinator, L19-36)
contact by email preferred at: john.randal@vuw.ac.nz

Lecture times: CRN1482: Mon, Wed, Thu, 13:10-14:00, MCLT103
CRN4501: Mon, Wed, Thu, 08:00-08:50, HMLT206

Tutorial time: Sign up online at <http://signups.vuw.ac.nz/>

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), or EA 128, phone 463-7449 (or ext. 7449). 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 and Randal (2004) *A First Course in Applied Statistics*, ISBN 1877258903 (VUW Library call number QA276 C594 F). This is available from the Victoria Book Centre for \$52.99. 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.

Tutorials

Weekly tutorials will cover lecture material from the previous week. Attendance at weekly tutorials is not compulsory, however, it is recommended that you prepare for the tutorial nonetheless. Preparation consists of reviewing the lecture material, and answering a short series of online questions – the Perdisco exercises. Tutorial exercises from the textbook will be prescribed on Blackboard, and these should also be attempted before the tutorial you attend. Bring your textbook and calculator.

Perdisco’s e-workbook

An online study resource has been developed for this course to help you learn the complex content that will be covered this semester. Using hundreds of interactive practice

questions and problem solving exercises, the e-workbook helps you make the most of your limited study time by offering:

- The chance to practice, revise and focus on each topic until you completely understand it
- Step-by-step feedback explaining why each answer you have given was correct or incorrect
- Virtual tutoring available anywhere, anytime (even outside of normal class hours)
- At a glance, you can see the areas you need to focus on.

The e-workbook costs AU\$34.10 for unlimited access throughout the semester and can be purchased online by credit card or by mail using a personal or bank cheque. Payment instructions are provided after registration.

As you can appreciate, a great deal of time and effort has gone into the development of this extensive and useful learning resource. Students who have regularly engaged with the e-workbook content in previous semesters have performed exceptionally well and have found that the benefits far outweigh the cost. Indeed, students who use the e-workbook and do not pass the unit are guaranteed a refund under Perdisco's "Guaranteed Pass Program".

To start using the e-workbook, visit <http://www.perdisco.com/students> and click on "Create a new account". This service is being trialed for permanent use in QUAN102, so any feedback will be greatly appreciated.

Perdisco exercises – e-workbook assignments

The e-workbook is also being used to deliver interactive tutorial assignments that will contribute to your overall assessment marks for this course. The tutorial assignments can be submitted online from anywhere, are marked instantly and give you immediate feedback on your performance.

In the interest of student access and equity, a limited number of free "library copies" are provided in Electronic Special Reserve (ESR) for students who cannot afford to purchase the e-workbook to complete their tutorial assignments. To access these, you must first create an account, add this course's e-workbook to it and click on "ESR login". For more information, click "ESR info" after registration. The ESR accounts are subject to a maximum number of simultaneous users, and a time limit.

Assessment Requirements

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

Perdisco exercises: 10% Test: 20% Exam: 70%

A 60 minute test covering lectures 1-15 (Monday 26 February to Thursday 29 March inclusive) will be held at 6:30pm on Tuesday 3 April (rooms to be confirmed). The final exam will be scheduled by the university in the examination period, 4 June – 1 July, 2007.

Assignments

Ten weekly assignment will be issued, which should be submitted at the into the appropriately labelled slot in the cabinet outside MY 221 on the second floor of Murphy

by midday on the due date. These will assess deeper understanding of the course material than the tutorial preparation exercises will. There will be ten weekly assignments, the first of which will be due in week 3. The questions will generally be taken directly from the textbook, and will be listed 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.

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 Perdisco exercises or late assignments will be given a zero mark.

Mandatory course requirements

A provisional terms list will be posted on Blackboard by 1 June, 2007. For terms you must:

- receive at least 5 out of 20 for the ten weekly assignments
- satisfactorily complete a set of Excel computer exercises by 5pm, 18 May, 2007 (these will be distributed prior to the mid-trimester break) These are NOT the Perdisco 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.

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.)

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.

Date	Lecture	Topic	Text
26 Feb	1	Introduction; motivation; examples of statistics in use	1
28 Feb	2	Variables; processing data; stemplots	2
1 Mar	3	Histograms; barcharts	2
5 Mar	4	Summary statistics; mean and standard deviation	3
7 Mar	5	Summary statistics for grouped data	3
8 Mar	6	Percentiles; boxplots	3.4
12 Mar	7	Scatterplots; correlation	4.1-4.2
14 Mar	8	Regression	4.3
15 Mar	9	Regression cntd	4.3
19 Mar	10	Introduction to probability	5.1-5.2
21 Mar	11	Probability trees	5.3
22 Mar	12	Bayes' rule	5.4
26 Mar	13	Probability distributions; binomial experiments	6
28 Mar	14	Binomial applications; proportions	6
29 Mar	15	Normal distribution	7
2 Apr	16	CLT; application to binomial	7
3 Apr		<i>Term test, 60 minutes, 6:30pm</i>	
4 Apr	17	Intro to inference; intervals for a single mean	8.1
5 Apr	18	Testing for a single mean	8.1
<i>Mid-trimester break, 2 weeks</i>			
23 Apr	19	Small sample tests for a mean	8.2
25 Apr		No lecture, ANZAC Day	
26 Apr	20	Sign test	8.3
30 Apr	21	Inference for a proportion	8.4
2 May	22	FPCF; margin of error	8.5-8.6
3 May	23	Comparing two means, large samples	9.1
7 May	24	Comparing two means, small samples	9.2
9 May	25	Comparing two variances	9.3
10 May	26	Mann-Whitney	9.4
14 May	27	Paired comparisons	9.5
16 May	28	Comparing proportions	9.6
17 May	29	Two populations and FPCF	9.7
21 May	30	One-way chi-square; goodness of fit	11.1
23 May	31	Contingency table testing	11.2
24 May	32	Regression testing	12.1-12.2
28 May	33	Prediction and prediction intervals	12.4
30 May	34	<i>F</i> -tests in a regression context	12.3
31 May	35	Wrap-up	13

Lecture materials will be supported by the Perdisco exercises, 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.

SUPPLEMENTARY INFORMATION

Faculty of Commerce and Administration Offices

Railway West Wing (RWW) - FCA Student and Academic Services Office

The Faculty's Student and Academic Services 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. To check for opening hours call the Student and Academic Services Office on (04) 463 5376.

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

The Kelburn Campus Office for the Faculties of Commerce and Administration, Education 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 is available for the following:

- Duty tutors for student contact and advice.
- Information concerning administrative and academic matters.
- Forms for FCA Student and Academic Services (e.g. application for academic transcripts, requests for degree audit, COP requests).
- Examinations-related information during the examination period.

To check for opening hours call the Student and Academic Services Office on (04) 463 5376.

General University Policies and Statutes

Students should familiarise themselves with the University's policies and statutes, particularly the Assessment Statute, the Personal Courses of Study Statute, the Statute on Student Conduct and any statutes relating to the particular qualifications being studied; see the Victoria University Calendar or go to <http://www.vuw.ac.nz/policy>.

For information on the following topics, go to the Faculty's website <http://www.vuw.ac.nz/fca>

- Academic Grievances
- Academic Integrity and Plagiarism
- Student and Staff Conduct
- Meeting the Needs of Students with Impairments
- Student Support

Manaaki Pihipihinga Programme

Manaaki Pihipihinga is an academic mentoring programme for undergraduate Māori and Pacific students in the Faculties of Commerce and Administration, and Humanities and Social Sciences. Sessions are held at the Kelburn and Pipitea Campuses in the Mentoring Rooms, 14 Kelburn Parade (back courtyard), Room 109D, and Room 210, Level 2, Railway West Wing. There is also a Pacific Support Coordinator who assists Pacific students by linking them to the services and support they need while studying at Victoria. Another feature of the programme is a support network for Postgraduate students with links to Postgraduate workshops and activities around Campus.

For further information, or to register with the programme, phone (04) 463 5233 ext. 8977 or email manaaki-pihipihinga-programme@vuw.ac.nz. To contact the Pacific Support Coordinator, phone (04) 463 5842 or email pacific-support-coord@vuw.ac.nz.