TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI

VICTORIA
UNIVERSITY OF WELLINGTON

School of Economics and Finance
QUAN 102 STATISTICS FOR BUSINESS

Trimester 1 2006

COURSE OUTLINE

Lecturers: Dr John Randal, RH308, phone 463-5558 (coordinator)
contact by email preferred at: John.Randal@vuw.ac.nz
Ms Cushla Thomson, RH315, phone 472-1000 ext 8571
contact by email preferred at: Cushla.Thomson@vuw.ac.nz

Lecture times: CRN 1482: Mon, Wed, Thurs, 3:10-4:00pm, MC LT103
CRN 4501: Mon, Wed, Thurs, 5:10-6:00pm, KK LT303

Tutorial time: Times and instructions for signing up will be posted on Blackboard.

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: 20%   Exam: 80%

A 60 minute test covering lectures 1-15 (Monday 27 February to Thursday 30 March, inclusive) will be held at 6:30pm, Thursday 6 April. The final exam will be scheduled by the university in the summer trimester examination period, June 5-23, 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 3. 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 2 June. For terms you must:

- receive at least 5 out of 20 for the 10 assignments

- complete a series of computer 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.

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	27 Feb	Introduction; motivation; examples of statistics in use	1
1	1 Mar	Variables; processing data; stemplots	2
1	2 Mar	Histograms; barcharts	2
2	6 Mar	Summary statistics; mean and standard deviation	3
2	8 Mar	Summary statistics for grouped data	3
2	9 Mar	Percentiles; boxplots	3.4
3	13 Mar	Introduction to probability	5.1-5.2
3	15 Mar	Probability trees	5.3
3	16 Mar	Bayes' rule	5.4
4	20 Mar	Probability distributions; binomial experiments	6
4	22 Mar	Binomial applications; proportions	6
4	23 Mar	Normal distribution	7
5	27 Mar	CLT; application to binomial	7
5	29 Mar	Intro to inference; intervals for a single mean	8.1
5	30 Mar	Testing for a single mean	8.1
6	3 Apr	Small sample tests for a mean	8.2
6	5 Apr	Sign test	8.3
6	6 Apr	Inference for a proportion	8.4
		Mid-trimester break, 2 weeks	
7	24 Apr	FPCF; margin of error	8.5-8.6
7	26 Apr	Comparing two means, large samples	9.1
7	27 Apr	Comparing two means, small samples	9.2
8	1 May	Comparing two variances	9.3
8	3 May	Mann-Whitney	9.4
8	4 May	Paired comparisons	9.5
9	8 May	Comparing proportions	9.6
9	10 May	Two populations and FPCF	9.7
9	11 May	One-way χ^2; goodness of fit	11.1
10	15 May	Contingency table testing	11.2
10	17 May	Scatterplots; correlation	4.1-4.2
10	18 May	Regression	4.3
11	22 May	Regression cntd	4.3
11	24 May	Regression testing	12.1-12.2
11	25 May	Prediction and prediction intervals	12.4
12	29 May	F-tests in a regression context	12.3
12	31 May	Wrap-up and revision	13
12	1 June	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. To check for opening hours call the office on 463-5376.

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 is available for the following:

- Duty tutors for student contact and advice.
- 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.

Check with the Student Administration Office for opening times, on 463-5376.

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. 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/`
or email 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.

Manaaki Pihipihinga Māori and Pacific Mentoring programme

(Faculties of Humanities and Social Sciences and Commerce and Administration).

- What: Academic Mentoring for Māori and Pacific students studying at all levels in the above schools. Weekly sessions for an hour with a mentor to go over assignments and any questions from tutorials or lectures. Registered students can use the facilities study rooms and computer suite, at any time, at Kelburn and Pipitea.

- Mature student and Post grad network.

If you would like to register as a mentor or mentee please contact the coordinator.

Where: Melissa Dunlop, Programme Coordinator, Room 109 D, 14 Kelburn Parade (back courtyard), 463-6015, Email: Maori-Pacific-Mentoring@vuw.ac.nz.

Please Note: A mentoring room will also be running at Pipitea Campus starting January. Please contact the Programme Coordinator for details.