

FACULTY OF COMMERCE AND ADMINISTRATION  
STUDENT AND ACADEMIC SERVICES

**Course Outline Approval Form**

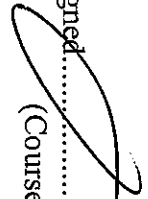

(Please complete one of these forms for each course)

Course Code (not CRN)	<u>QWAN 102</u>	Trimester taught	<u>3</u>
Course Title	<u>Statistics for Business</u>		
Course Coordinator Name (please print)	<u>JOHN KAMAR</u>		
Scrutineer Name (please print)	<u>STEPHIE BURNELL</u>		

We confirm that the Outline for the above course meets Faculty and University requirements as set out in the Course Outline Template, and as described in detail in the Assessment Handbook 2006, Section 3 *Course Outlines*.

Please note in particular paragraph 3.4 of the 2006 Assessment Handbook, that each course outline must be carefully checked and signed off as correct by another academic staff member (the scrutineer).

Please ensure that this completed form is sent, duly signed, to Laura Woodward, Room RW111, by Friday 7 July 2008 for Second Trimester courses.

Signed..... (Course Coordinator)		..... (Scrutineer)	
Date.....	.....	.....	<u>12/11/08</u>



School of Economics and Finance

## QUAN 102 STATISTICS FOR BUSINESS

Trimester Three 2008

### COURSE OUTLINE

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**Administrator:** Francine McGee, RH319, phone 463-5818  
email: francine.mcgee@vuw.ac.nz

**Coordinator:** John Randal, RH308, phone 463-5558  
email: john.randal@vuw.ac.nz

**Lecture times:** Mon, Tues, Weds, Thurs, 9:00-10:50, MCLT102

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

**Course website:** <http://www.blackboard.vuw.ac.nz/>

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 tutor (for academic problems), or to the course administrator (for administrative problems).

The Course Administrator will handle the recording of information such as assignment, test and exam marks. All administrative queries concerning assignments or tutorials should be directed to the course administrator via email. You must not send the same email separately to the course coordinator. If QUAN 102 does not appear on your Blackboard home page, please email the course administrator immediately with your SCS username. If you are unsure who to contact, try the course administrator first.

#### Trimester Dates

Monday 17 November to Friday 19 December 2008 (inclusive) covers the period from the first lecture to the final examination.

#### 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.

All assessment gives an opportunity to demonstrate these objectives.

### Expected workload

You should expect to spend 10 hours in class per week (8 lectures and 2 tutorial) and to spend 25 - 30 hours per week reading, studying and completing assignments.

### Assessment Requirements

A 60 minute test covering lectures 1–18 (Monday 17 November to Monday 1 December inclusive) will be held at 10:00am on Thursday 4 December. *This will be worth 20% of your final grade.*

The final exam will be on Friday 19 December. *This will be worth the remaining 80% of your final grade.* Students enrolled in this course are obliged to attend the examination at the University at this time.

Assessment also includes assignments, and a set of Excel exercises, but these do not contribute to your final mark.

### Readings

The text is: Clark and Randal (2004), *A First Course in Applied Statistics*, Pearson, ISBN 1877258903 (VUW Library call number QA276 C594 F). This is available from the Victoria Book Centre for \$56.99. 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 library resources and has links to 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). Graphics calculators and programmable calculators are permitted, but not necessary. All programmable calculators must be reset prior to the test and exam.

## Course content

Chapter references are 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. (Note: A = Assignment due, T = Tutorial)

Date	Lecture	Topic	Text
17 Nov	1	Introduction; motivation; examples of statistics in use	1
17 Nov	2	Variables; processing data; stemplots	2
18 Nov	3	Histograms; barcharts	2
18 Nov	4	Summary statistics; mean and standard deviation	3
19 Nov	5	Summary statistics for grouped data	3
19 Nov	6	Percentiles; boxplots	3.4
20 Nov	7	Scatterplots; correlation	4.1-4.2
20 Nov	8	Regression	4.3
24 Nov	9	Regression	4.3
24 Nov	10	Introduction to probability	5.1-5.2
25 Nov	11	Probability trees	5.3
25 Nov	12	Bayes' rule	5.4
26 Nov	13	Probability distributions; binomial experiments	6
26 Nov	14	Binomial applications; proportions	6
27 Nov	15	Normal distribution	7
27 Nov	16	CLT; application to binomial	7
1 Dec	17	Intro to inference; intervals for a single mean	8.1
1 Dec	18	Testing for a single mean	8.1
2 Dec	19	Small sample tests for a mean	8.2
2 Dec	20	Sign test	8.3
3 Dec	21	Inference for a proportion	8.4
3 Dec	22	FPCF; margin of error	8.5-8.6
4 Dec		<i>No lecture, 9am-10am</i>	
4 Dec		<i>Test, 60 minutes, 10am-11am</i>	
8 Dec	23	Comparing two means, large samples	9.1
8 Dec	24	Comparing two means, small samples	9.2
9 Dec	25	Comparing two variances	9.3
9 Dec	26	Mann-Whitney	9.4
10 Dec	27	Paired comparisons	9.5
10 Dec	28	Comparing proportions; 2 populations and FPCF	9.6-9.7
11 Dec	29	One-way chi-square; goodness of fit	11.1
11 Dec	30	Contingency table testing	11.2
15 Dec	31	Regression testing	12.1-12.2
15 Dec	32	Prediction and prediction intervals	12.4
16 Dec	33	$F$ -tests in a regression context	12.3
16 Dec	34	Wrap-up and revision	13
17 Dec	35	Revision	
17 Dec	36	Revision	
18 Dec			
19 Dec		<i>Examination</i>	T9

Lecture materials will be supported by practice in the tutorials, and through the assignments. Specific tutorial and assignment exercises will be distributed via Blackboard. You should try the problems in advance of attending the tutorial. The assignment will allow further practice of these skills.

## Tutorials

Tutorials will be held on Tuesdays and Thursdays throughout the course, from Thursday in week 1. They will cover material from the lectures from the previous week. Attendance at tutorials is not compulsory, however, it is recommended that you prepare for the tutorial nonetheless. Tutorial exercises from the textbook will be listed on Blackboard, and these should be attempted before the tutorial you attend. Bring your textbook and calculator.

## Assignments

There will be five short assignments, due at your tutorial as indicated in the Course Content table. Assignments will be issued 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 3/10 is *required* for completion of the course, a mark of less than 5/10 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) is unacceptable and will not only count as having been missed, but may also initiate disciplinary action against the students concerned.

- *DO* head your assignments with
  - \* your **NAME**,
  - \* your **TUTOR'S NAME**, and
  - \* the **TIME** of your tutorial.
- *DO* staple all sheets together.
- *DO NOT* fold your assignments or seal them shut.
- *DO NOT* put your work in a plastic sleeve.

Marked assignments will be returned at the tutorial of the following week. Uncollected assignments will be disposed of at the end of the course. Missed or late assignments will be given a *zero mark*.

## Mandatory course requirements

- receive at least 3 out of 10 for the five assignments
- satisfactorily complete a sets of Excel exercises. These are due by Friday 12 December. These will be distributed and submitted via Blackboard.
- sit the test

If your performance in the test or assignments is affected by ill health you should take a medical certificate to the course administrator as soon as possible. If you do not meet the mandatory requirements, you 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. If you are denied and sit the final exam, you will still fail the course.

## Withdrawal dates

See <http://www.victoria.ac.nz/home/admisenrol/payments/withdrawalsrefunds.aspx>

## **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 (RWV) - 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 available in hard copy or on the VUW website at <http://www.victoria.ac.nz/home/study/calendar.aspx>

## **Student 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 are to be taken if there is a complaint. For information about complaint procedures under the Statute on Student Conduct, contact the Facilitator and Disputes Advisor or refer to the statute on the VUW policy website at: <http://www.victoria.ac.nz/home/about/policy/students.aspx>

The policy on Staff Conduct can be found on the VUW website at: <http://www.victoria.ac.nz/home/about/policy/staff.aspx>

## **Academic Grievances**

If you have any academic problems with your course you should talk to the tutor or lecturer concerned; class representatives may be able to help you in this. If you are not satisfied with the result of that meeting, see the Head of School or the relevant Associate Dean; the VUWSA Education Coordinator is available to assist in 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 at: <http://www.victoria.ac.nz/home/about/policy/students.aspx>

## **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. The University defines plagiarism as follows:

*The presentation of the work of another person or other persons as if it were one's own, whether intended or not. This includes published or unpublished work, material on the Internet and the work of other students or staff.*

It is still plagiarism even if you re-structure the material or present it in your own style or words.

*Note: It is however, perfectly acceptable to include the work of others as long as that is acknowledged by appropriate referencing.*

Plagiarism is prohibited at Victoria and is not worth the risk. Any enrolled student found guilty of plagiarism will be subject to disciplinary procedures under the Statute on Student Conduct and may be penalised severely. Consequences of being found guilty of plagiarism can include:

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

Find out more about plagiarism, and how to avoid it, on the University's website:  
<http://www.victoria.ac.nz/home/study/plagiarism.aspx>

### **Students with Impairments**

The University has a policy of reasonable accommodation of the needs of students with disabilities. The policy aims to give students with disabilities the same opportunity as 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, 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 (DSS) to discuss your individual needs and the available options and support on a confidential basis. DSS are located on Level 1, Robert Stout Building, telephone (04) 463 6070, email [disability@vuw.ac.nz](mailto:disability@vuw.ac.nz). The name of your School's Disability Liaison Person is in the relevant prospectus or can be obtained from the School Office or DSS.

### **Student Support**

Staff at Victoria want students to have positive learning experiences at the University. Each Faculty has a designated staff member who can either help you directly if your academic progress is causing you concern, or quickly put you in contact with someone who can. Assistance for specific groups is also available from the Kaiwawao Māori, Manaaki Pihipihinga or Victoria International.

In addition, the Student Services Group (email [student-services@vuw.ac.nz](mailto:student-services@vuw.ac.nz)) is available to provide a variety of support and services. Find out more at <http://www.victoria.ac.nz/st.services/>

VUWSA employs 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 (tel. (04) 463 6983 or (04) 463 6984, email [education@vuwsa.org.nz](mailto:education@vuwsa.org.nz)) is located on the ground floor, Student Union Building.

### **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 6015 or email [manaaki-pihipihinga-programme@vuw.ac.nz](mailto:manaaki-pihipihinga-programme@vuw.ac.nz). To contact the Pacific Support Coordinator, phone (04) 463 5842 or email [pacific-support-coord@vuw.ac.nz](mailto:pacific-support-coord@vuw.ac.nz).