TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI

VICTORIA
UNIVERSITY OF WELLINGTON

School of Economics and Finance

QUAN 202 BUSINESS AND ECONOMIC FORECASTING

Second Trimester 2005

COURSE OUTLINE

Lecturers	Dr John Randal, RH308, phone 463-5558 (coordinator)
	contact by email preferred at: John.Randal@vuw.ac.nz
	Dr Jin Seo Cho, RH303, phone 463-6149
	contact by email preferred at: JinSeo.Cho@vuw.ac.nz
Tutor	Mrs Zheng Hong (Jennifer) Zhu
Lecture times	Tuesday, 1030-1220, RLWY 501
	Thursday, 1130-1220, RLWY 501
Tutorial/lab time	Friday, 1030-1220, RLWY 102

Course Objectives

QUAN 202 is an introduction to forecasting. The focus is on practical methods commonly used for the production of business and economic forecasts. The objectives of the course are to study a wide range of forecasting problems, to examine the forecasting process and characterise it, and to develop a number of alternative ways in which that process is modified because of the nature of the forecasting problem.

By the end of the course students should be able to:

- Explain the strengths and weaknesses of a wide range of forecasting methods.

- Appreciate and critically evaluate the forecasting techniques used in particular situations.

- Produce forecasts for various types of economic variables.

- Assess the accuracy of forecasts and consequently improve forecast performance.

- Use a computer and appropriate software as a necessary tool for practical forecasting.

- Produce a word-processed report on a forecasting project.

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Readings

The textbook for the course is: Hanke and Wichern (2005), *Business Forecasting*, 8th edn, Prentice Hall.

It is available from the Victoria Book Centre for $109.95. The course will follow the book closely, and assignment problems will be set from it, so it is important that all students have access to a copy. All the data from the book is available in MS Excel format, and has been placed in the course directory accessible via Blackboard.

Materials and Equipment

A calculator will be essential for both the terms test and final examination.

Assessment Requirements

The course will be assessed by way of four assignments, a project, a terms test, and a final exam. In order to complete the course, all students must attend the terms test and final exam, and submit two type-written reports for the forecasting project.

- The four assignments will be issued periodically through the course and will test both theoretical understanding, and ability to apply the methods discussed in the course. Each assignment will be worth $2\frac{1}{2}$% of your final mark, constituting 10% in total.

- The project is compulsory and is worth 30% of your mark. The project will be assessed on the basis of two short, word-processed reports. The first of these will be due on Tuesday 30 August, and will focus on identifying the important features of a time series of visitor arrivals to New Zealand. This will be followed up by a second report, due on Monday 10 October, in which you will provide forecasts for this series. The first report will be worth $33\frac{1}{3}$% of the project mark (i.e. 10% overall), and the second the remaining $66\frac{2}{3}$% (i.e. 20% overall). Integration of the first report into the second will be important.

- The 90 minute terms test will be on Wednesday 10 August, at 6.30pm. It will cover material up to and including the end of week 5, and is worth 20% of your overall mark. Attendance is a compulsory requirement of the course.

- The final exam, worth the remaining 40% of the course mark, will be a two-hour exam in the second trimester examination period of 10 October to 5 November.

Attainment of 40% in the final exam will be required to pass the course, as well as a mark of 50% overall. To achieve an A+ grade in the course, 80% will be required in the exam, as well as 85% overall.

Penalties

Late penalties will apply to the assignments and the project reports. In each case, 10% of the available marks will be deducted per day for the first five days, and after this time, a mark of zero awarded. In the case of the projects, they must still be submitted to satisfy the course requirements.

If you anticipate handing in work late due to medical circumstances, or some other valid reason, please see the course coordinator in advance of the due date to arrange an extension.

Mandatory course requirements

All students must attend the test, submit both project assignments, and attend the exam.

Forecasting competition

Throughout the course, we will run a forecasting competition. In each of weeks 2-11, data for a single time series will be made available. All class members will be invited to submit forecasts for the next two observations in the series by the following Monday at midday. Forecasts will be appraised using withheld data, and the student with the smallest average rank at the end of the course will be named "QUAN202 Forecaster of 2005" and awarded a $100 book voucher, sponsored by the School of Economics and Finance. Progress will be monitored on Blackboard, and the winner will be announced in Week 12.

Computing

To complement the theoretical development of forecasting, we will use Excel, and the statistics package SPSS to practice forecasting techniques. The RLWY 102 computer lab has been booked for 10:30-12:20 on Fridays. In each of weeks 1-5, and 7-11, a tutorial session will be run, and this will cover implementation of recent lecture material. You will be allocated to one of the two hour long slots. In the other weeks, the lab will be booked for our class, so you will have priority if you choose to work on examples, the projects or assignments. If there is sufficient demand for an alternative evening time, this may be accommodated.

Course content

The following is a tentative timetable for the course.

The lecture schedule is as follows, with chapter references to Hanke.

Week	Topic	Text	Tutorial	Due
1	Introduction and basic statistics	Ch 1-3	T1	
2	Moving averages and smoothing	Ch 4	T2	
3	Smoothing, cont. Time series components	Ch 5	T3	A1
4	Simple linear regression	Ch 6	T4	
5	Multiple regression	Ch 7	T5	A2
6	Time series regression	Ch 8		Test
Mid trimester break, 2 weeks				
7	ARIMA	Ch 9	T6	PR1
8	ARIMA, cont.	Ch 9	T7	
9	ARIMA, cont.	Ch 9	T8	A3
10	ARIMA, cont.	Ch 9	T9	
11	Extension material		T10	A4
12	Judgmental forecasting	Ch 11		
Exam/study period begins				PR2

The assignment schedule is as follows:

Assignment	Topics covered	Due
A1	L1-6: Basics & moving averages	Tuesday 19 July
A2	L7-12: Smoothing & decomposition	Tuesday 2 August
A3	L13-24: Time series regression & ARIMA	Tuesday 13 September
A4	L25-30: ARIMA	Tuesday 27 September

Communication of additional information

Course notices will generally be relayed in class, via email, and put on Blackboard.

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 elses 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 (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 Universitys website at: `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 studentservices@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.