TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI
VICTORIA
UNIVERSITY OF WELLINGTON

School of Economics and Finance

FINA 304 FINANCIAL ECONOMETRICS

Trimester 1, 2014

COURSE OUTLINE

Lecturer Leigh Roberts, RH 323, phone 463-5937 (coordinator)
office hour: 10.30 - 11.20 Wednesdays in RH 323
email: leigh.roberts@vuw.ac.nz

Administrator Julie-Mary Boles de Boer, RH 321, phone 463-6386
email: Julie-Mary.BolesdeBoer@vuw.ac.nz

Lecture times Wednesday, Friday 11.30 - 12.20, GB LT3

Tutorials Computer labs are held in weeks 2-3, 5-6 and 9-12 inclusive.

Tutorial times Friday 12.40 - 13.30, RWW 202
Friday 13.40 - 14.30, RWW 202

Trimester dates

Teaching Period: Monday 3 March to Friday 6 June 2014
Study Period: Monday 9 June to Thursday 12 June 2014
Examination Period: Friday 13 June to Wednesday 2 July 2014 (inclusive)

Withdrawal from the course

Your fees will be refunded if you withdraw from this course on or before Friday 14 March 2014.

The standard last date for withdrawal from this course is Friday 16 May 2014. After this date, students forced to withdraw by circumstances beyond their control must apply for permission on the form 'Application for Associate Dean's permission to Withdraw Late', and include supporting documentation. This form is available from either of the Faculty's Student Customer Service Desks.

Prescription

This course develops tools for analysing financial time series and estimating and testing simple finance models. Topics include the predictability of asset returns; The Capital Asset Pricing Model; and generalised autoregressive conditional heteroskedastic models.

Course Learning Objectives

1. document properties of various types of financial data and analyse them with the appropriate econometric tools;
2. apply classical regression models to CAPM;
3. apply extensions of classical regression models to finance;
4. understand and apply maximum likelihood estimation;
5. estimate ARCH and GARCH models;
6. estimate regime switching models.

Course Content

The content and timing of the course, and the order of presentation, may differ slightly from the information given in the following table. Note that Friday 18 April is Good Friday, a University holiday, so that there will be NO lecture on that day. Also note that Monday 2 June is a University holiday (Queen's Birthday).

Date, 2014	Week	Theme	Project	Ass set	Ass due	Tuts
3 - 7 March	1	Prices, returns, volatility				
10 - 14 March	2	Volatility, stylised facts		1		Tut
17 - 21 March	3	Time series, ACFs, stationarity				Tut
24 - 28 March	4	ACFs; cycles, frequency, period	App	2	1	
31 March - 4 April	5	AR(1), MA(1)				Tut
7 - 11 April	6	ARMA		3	2	Tut
14 - 18 April	7	ARMA; ARMA MLE				
Mid-trimester break, 2 weeks: Monday 21 April - Friday 2 May 2014						
5 - 9 May	8	ARCH; GARCH			3	
12 - 16 May	9	GARCH; rugarch				Tut
19 - 23 May	10	Filtering, rolling forecasts	Due			Tut
26 - 30 May	11	Wavelet MRAs				Tut
2 - 6 June	12	Revision				Tut

Under the Project column, 'App' denotes approval of the project topic by the coordinator.

Assignments are set in the week indicated above, to be handed in to blackboard by the Friday (midnight) two (course) weeks later. The coordinator may give permission for a more mathematical assignment to be handed in by hard copy, generally by 5 pm on the due date to a Box on the Mezzanine floor, Rutherford House. The box number will be notified should this be necessary.

Suggested topics for the project are to be circulated, on blackboard and in lectures, within the first two weeks of the course. Project topics are subject to approval by the coordinator, by email, no later than the end of week 4. Students are however encouraged to think about topics from inception of the course, and to seek the coordinator's approval of their topic well before the deadline.

The Project is due by the end of week 10, Friday 23 May 2014, and is to be submitted electronically to Blackboard, by midnight on the due date. Under exceptional circumstances, the coordinator may give permission for the project to be submitted by the due date in hard copy, as above for the assignments.

Submitted projects should list the approximate number of words, and have page numbers inserted. Penalties may be imposed if the length of work submitted does not lie within the recommended range of the number of words.

Penalties are imposed for late submission of assignments and projects: see the Penalties section below.

Expected workload

In weeks when there is a tutorial you should spend 3 hours in class per week (2 lectures and 1 tutorial); in the remaining weeks you should spend 2 hours in class per week (2 lectures). You should expect to spend an additional 6-8 hours per week reading, studying and completing assignments. Overall it is expected that you will spend approximately 150 hours on completing this course.

Readings

Lecture notes and readings will be made available on Blackboard.

It is *not* recommended that you purchase any text books for this course.

Parts of the course will be based on Taylor (2005):
S J Taylor, *Asset Price Dynamics, Volatility, and Prediction*, Princeton University Press, 2005.

This book is available as an e-book in the VUW library.

Materials and Equipment

A calculator may be needed for tutorials and assignments, as well as for the final exam. The calculator must be able to work out powers, and have the exponential and the logarithmic functions.In addition, the calculator must be silent and have its own power source.

More advanced calculators, such as graphics and programmable calculators, are not needed for this course. Programmable calculators must be reset prior to the exam.

If you do not already have a calculator, talk to the lecturer before you buy one. A basic calculator suitable for the course should cost no more than about $20.

The project, and one or more assignments, will involve the use of the computer suite R, available to students in RWW 202. No previous knowledge of R is assumed, and assignments set involving R should not take longer to complete than non-mathematical assignments. If they wish, students may download R onto their own computers: it is open-source software, available free from http://www.r-project.org/. Particular R packages to be used may include rugarch and waveslim.

Assessment

- 30% Three assignments, each worth 10%
- 30% Project, of 2000-3000 words, to be submitted electronically to Blackboard by the end of week 10, Friday 23 May 2014.
- 40% Two hour final examination, during the examination period, Friday 13 June - Wednesday 2 July 2014 (inclusive).

From Trimester 1, 2014, a revised assessment handbook will apply to all VUW courses: see http://www.victoria.ac.nz/documents/policy/staff-policy/assessment-handbook.pdf.

In particular, there will be a new grade scheme, in which the A+ range will be 90-100% and 50-54% will be a C-.

All asssessment addresses CLOs 1, 4 and 5. The assignments address CLOs 2, 3 and 6.

Penalties

Except in the matter of illness (for which a doctor's certificate is required), or other highly exceptional circumstances, marks for projects and assignments are reduced by 5% for each day late.

Projects and assignments appearing to be copied will be marked as zero. Appeals on marking may be made to the coordinator.

Use of Turnitin

Student work provided for assessment in this course may be checked for academic integrity by the electronic search engine http://www.turnitin.com. Turnitin is an on-line plagiarism prevention tool which compares submitted work with a very large database of existing material. At the discretion of the Head of School, handwritten work may be copy-typed by the School and subject to checking by Turnitin. Turnitin will retain a copy of submitted materials on behalf of the University for detection of future plagiarism, but access to the full text of submissions will not be made available to any other party.

Examinations

Students who enrol in courses with examinations are obliged to attend an examination at the university at any time during the formal examination period. The final examination for this course will be scheduled at some time during the following period:

Friday 13 June - Wednesday 2 July 2014 (inclusive)

Mandatory course requirements

Submission of the essay and attendance at the exam are compulsory.

If you cannot complete an assignment or sit a test or examination, refer to
www.victoria.ac.nz/home/study/exams-and-assessments/aegrotat

Class representative

A class representative will be elected in the first class, whose name and contact details will be made available to VUWSA, the Course Coordinator and the class. The class representative provides a communication channel to liaise with the Course Coordinator on behalf of students.

Communication of additional information

Additional information will be conveyed to students via Blackboard.

Student Feedback

Student feedback on University courses may be found at
www.cad.vuw.ac.nz/feedback/feedback_display.php

Link to general information

For general information about course-related matters, go to
http://www.victoria.ac.nz/vbs/studenthelp/general-course-information

Note to Students

Your assessed work may also be used for quality assurance purposes, such as to assess the level of achievement of learning objectives as required for accreditation and academic audit. The findings may be used to inform changes aimed at improving the quality of VBS programmes. All material used for such processes will be treated as confidential, and the outcome will not affect your grade for the course.