TE WHARE WĀNANGA O TE ŪPOKO O TE IKA A MĀUI

VICTORIA
UNIVERSITY OF WELLINGTON

School of Economics and Finance

QUAN 371 FINANCIAL MATHEMATICS

Trimester One 2010

COURSE OUTLINE

Lecturer Leigh Roberts, RH 323, phone 463-5937 (coordinator)
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Administrator Suzanne Freear, RH 321, phone 463-5380
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Lecture times Monday, Wednesday, Friday 2.40 - 3.30, RHLT 3

Tutorial times Wednesday 10.30 - 11.20, RWW 413
Wednesday 11.30 - 12.40, RWW 413

Tutorials are held every second week, starting from week 3.

The tutorials are in the nature of help sessions, and students are not required to sign up for particular tutorials.

The coordinator is often available in his office on Wednesdays; and is unavailable on Tuesdays and Thursdays.

Trimester dates

Teaching Period: Monday 1 March to Friday 4 June 2010
Study Period: Monday 7 June to Thursday 10 June 2010
Examination Period: Friday 11 June to Wednesday 30 June 2010 (inclusive)

Note: Students who enrol in courses with examinations should be able to attend an examination at the University at any time during the formal examination period.

Withdrawal from the course

Information is available via

Withdrawal dates: Late withdrawals with Associate Dean (Students) permission (See Section 8: Withdrawals - from the Personal Courses of Study Statute)
http://policy.vuw.ac.nz/Amphora!~~policy.vuw.ac.nz~POLICY~000000001743.pdf

Withdrawal dates: refunds:
http://www.victoria.ac.nz/home/admisenrol/payments/withdrawlsrefunds.aspx

Course Learning Objectives

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

comprehend and articulate financial mathematical representation of finance theories;

apply financial mathematics to the pricing and evaluation of insurance and derivative securities;

utilise financial mathematics to analyse credit risk, forward and futures contracts, swaps and options;

analyse the application of financial mathematics to evolving financial markets in modern economies.

Course Delivery

The course will be delivered by three lectures per week and a tutorial in 5 out of the 12 weeks.

There are to be two tests and eight assignments; in addition to which there is a project of 800 to 1000 words.

See below for timetabling and more details.

Expected Workload

In weeks when there is a tutorial (see the course content below) you should expect to spend 4 hours in class per week (3 lectures and 1 tutorial); in the remaining weeks you should expect to spend 3 hours in class per week (3 lectures).

You should expect to spend about 12 hours per week reading, studying and completing assignments and the project. Overall it is expected that you will spend approximately 240 hours on completing this course.

Course Content

The content and timing of the course may differ slightly from the information given in the following approximate timetable.

Date	Week	Topic	Notes Chs.	Test	Assignments set	Assignments submitted	Tutorials
1-5 March	1	Elementary: i, d, δ	1,2		1		
8-12 March	2	Annuities	3		2	1	
15-19 March	3	Loans	4		3	2	Tut
22-26 March	4	Accrued Interest	5		4	3	
29 Mar-1 Apr	5	Unitised Funds	8	T1?		4?	Tut
Mid trimester break, 2 weeks 3-18 April 2010							
19-23 April	6	Duration, Volatility	9	T1?	5	4?	
26-30 Apr	7	Immunisation	10		6	5	Tut
3-7 May	8	Life Table	12			6	
10-14 May	9	Derivatives	20		7	Project	Tut
17-21 May	10	Yield Curve	17		8	7	
24-28 May	11	Int. Rate Futures	17	T2			Tut
31 May-4 Jun	12	Revision				8	

Note that there will be only two lectures in week 5, because of the public holiday on Good Friday, 2 April. Tests will be held during a lecture time (50 minutes) in the weeks indicated, with the decision as to the test dates taken in consultation with the class.

The decision as to whether the first test will be held before or after Easter will be taken in the first week, probably in the second lecture. The week in which assignment 4 is to be submitted will depend on when the first test is held.

Tutorials are held every second week, commencing in week 3.

The project is due at the end of week 9, on Friday 14 May. The length of the project will be approximately 800 to 1000 words; and the topic will be given in lectures in the first week. Guidelines as to writing the project and the way in which it will be marked are posted on blackboard, in the section together with the course outline.

Readings

It is not recommended that you purchase any books for this course. Notes will be made available on Blackboard: http://www.blackboard.vuw.ac.nz/

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

Assessment Requirements

- 12% Average of the weekly assignment marks
- 8% Project
- 20% Test 1, held in a lecture time-slot in week 5 or week 6
- 20% Test 2, held in a lecture time-slot in week 11
- 40% Two hour final examination, in the examination period 11-30 June 2010

Assignments will be set each week at the Monday lecture, normally to be handed in to Box 30 in the Mezzanine floor in Rutherford House no later than 5 p.m. on the Wednesday in the week following.

Answers to the assignments will be posted on blackboard, and late assignments will not be accepted.

Assignments appearing to be copied will be marked as zero. Appeals on assignment marking may be made to the coordinator.

The project topic will be announced to the class during the first week's lectures. The length of the project should be approximately 800 to 1000 words; and it is to be handed in to Box 30 in the Mezzanine floor in Rutherford House no later than 5 p.m. on Friday 14 May.

Provided the student has good reason (for instance a medical certificate), and obtains permission *before* the due date from the course coordinator, there will be no penalty for handing in the project late. In other cases the project may first be graded on a basis comparable with those projects handed in on time, and then have 5% of that grade subtracted for each day or part-day for which the project is late.

The project is expected to be written *entirely* by the student. In cases where there is any doubt in the marker's mind as to whether the project is entirely the student's own work, the coordinator reserves the right to withhold the mark until the situation has been clarified. In particular the coordinator reserves the right to submit a project to software designed to detect copying from sources such as the internet: see the note on Turnitin below.

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 audit purposes. The findings may be used to inform changes aimed at improving the quality of FCA programmes. All material used for such processes will be treated as confidential, and the outcome will not affect your grade for the course.

Materials and Equipment

A scientific calculator is needed for the tests and the final exam, as well as for tutorials and assignments. The calculator must be able to work out powers, and 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 tests and exam.

Examinations

Students who enrol in courses with examinations are obliged to attend an examination at the university at the required time during the formal examination period.

The final examination for this course will be scheduled at some time during the period from Friday 11 June to Wednesday 30 June 2010 (inclusive).

Penalties

Late assignments are not accepted. For tests, see the section headed Mandatory Course Requirements. For the project, see the Assessment Requirements.

Mandatory course requirements

Attendance at both tests and the final examination is compulsory.

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 and/or email.

Emails may be sent to the address that you supplied with your enrolment; but they may also be sent to your SCS email address, which is your official university email address. You should keep an eye on both email addresses.

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 my 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.

For the following important information follow the links provided:

Academic Integrity and Plagiarism
http://www.victoria.ac.nz/home/study/plagiarism.aspx

General University Policies and Statutes
http://www.victoria.ac.nz/home/about/policy

AVC (Academic) Website: information including: Conduct, Academic Grievances, Students with Impairments, Student Support
http://www.victoria.ac.nz/home/about_victoria/avcacademic/Publications.aspx

Faculty of Commerce and Administration Offices
http://www.victoria.ac.nz/fca/studenthelp/

Manaaki Pihipihinga Programme
http://www.victoria.ac.nz/st_services/mentoring/