

# School of Economics and Finance

# FINA 303 DERIVATIVES

Trimester Two 2012

# **COURSE OUTLINE**

| Lecturer      | Leigh Roberts, RH 323, phone 463-5937 (coordinator)<br>office hour: 10.30 - 11.20 Thursdays in RH 323<br>email: leigh.roberts@vuw.ac.nz |
|---------------|---|
| Administrator | Bonnie Riley, RH 321, phone 463-5380<br>email: bonnie.riley@vuw.ac.nz   |
| Lecture times | Wednesday, Friday 10.30 - 11.20, GB LT2   |
| Tutorials     | Tutorials are held in weeks 3-6, and in weeks 9-12 inclusive.   |

## **Trimester dates**

Teaching Period: Monday 16 July to Friday 19 October 2012 Study Period: Monday 22 October to Thursday 25 October 2012 Examination Period: Friday 26 October to Saturday 17 November 2012 (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

Your fees will be refunded if you withdraw from this course on or before 27 July 2012.

The standard last date for withdrawal from this course is Friday 28 September 2012. 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 the Faculty's Student Customer Service Desks.

#### **Course Content**

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

| Date   | Week | Topic                          | Notes | Test |     | signments | Tutorials |  |  |
|--|------|--------------------------------|-------|------|-----|-----------|-----------|--|--|
|  |      |                                | Chs.  |      | set | submitted |           |  |  |
| 16-20 July   | 1    | EAR, APR: $i, i^{(2)}, \delta$ | 1,2   |      |     |           |           |  |  |
| 23-27 July   | 2    | Annuities                      | 3     |      | 1   |           |           |  |  |
| 30 July - 3 Aug  | 3    | Loans, Bonds                   | 4     |      |     |           | Tut       |  |  |
| 6-10 August  | 4    | Bonds, Duration                | 9     |      | 2   | 1         | Tut       |  |  |
| 13-17 August   | 5    | Volatility (1)                 | 9,11  |      |     |           | Tut       |  |  |
| 20-24 August   | 6    | Derivatives overview           | 19    |      |     | 2         | Tut       |  |  |
| Mid trimester break, 2 weeks: 27 August - 7 September 2012 |      |                                |       |      |     |           |           |  |  |
| 10-14 Sept   | 7    | Options, Black Scholes         | 19    | Test |     |           |           |  |  |
| 17-21 Sept   | 8    | Futures Contracts              | 19    |      | 3   |           |           |  |  |
| 24-28 Sept   | 9    | Forward Contracts              | 19    |      |     |           | Tut       |  |  |
| 1-5 Oct  | 10   | Swaps                          | 19    |      | 4   | 3         | Tut       |  |  |
| 8-12 Oct   | 11   | Return, Volatility (2)         | 11    |      |     |           | Tut       |  |  |
| 15-19 Oct  | 12   | Revision                       |       |      |     | 4         | Tut       |  |  |

Assignments are normally set on a Friday; and are to be handed in by 5 pm on the Friday two weeks later, to Box 30 on the Mezzanine floor, Rutherford House.

#### **Course Learning Objectives**

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

- C1 articulate mathematical representation of finance theories
- C2 apply financial mathematics to the pricing and evaluation of insurance and derivative securities
- C3 utilise financial mathematics to analyse credit risk, futures and forward contracts, swaps and options
- C4 analyse the application of financial mathematics to evolving financial markets in modern economies

## **Course Delivery**

The course will be delivered by two lectures per week and tutorials in 8 out of the 12 weeks.

## **Expected Workload**

In weeks when there is a tutorial (see the course content) you should expect to spend 3 hours in class per week (2 lectures and 1 tutorial); in the remaining weeks you should expect to spend 2 hours in class per week (2 lectures).

You should expect to spend about 6 hours per week reading, studying and completing assignments. Overall it is expected that you will spend approximately 130 to 150 hours on completing this course.

# 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/

# Materials and Equipment

A 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 have the exponential and the logarithmic functions. Statistical functions (mean, variance etc) are not required. 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. A basic calculator suitable for the course costs about \$20.

#### **Assessment Requirements**

- 10% Average of the four assignment marks
- 40% Test, held in a lecture time-slot in week 7
- 50% Two hour final examination, in the examination period 26 October 17 November 2012

Assignments will usually be set on a Friday, normally to be handed in to Box 30 on the Mezzanine floor in Rutherford House no later than 5 p.m. on the Friday two weeks later. Late assignments will not be accepted, and answers will be posted on blackboard.

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

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.

## 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 26 October to Saturday 17 November 2012 (inclusive).

## Penalties

Late assignments are not accepted.

## Mandatory course requirements

Attendance at both the test 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.

#### 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**

Find key dates, explanations of grades and other useful information at http://www.victoria.ac.nz/home/study

Find out about academic progress and restricted enrolment at http://www.victoria.ac.nz/home/study/academic-progress

The University's statutes and policies are available at http://www.victoria.ac.nz/home/about/policy, except qualification statutes, which are available via the Calendar webpage at http://www.victoria.ac.nz/home.study/calendar (See Section C)

Further information about the University's academic processes can be found on the website of the Assistance Vice-Chancellor (Academic) at http://www.victoria.ac.nz/home/about\_victoria/avcacademic/default.aspx

# 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 Offices http://www.victoria.ac.nz/fca/studenthelp/

Te Putahi Atawhai Maori and Pacific Mentoring Programme http://www.victoria.ac.nz/tpa/