

School of Economics and Finance

**FINM 472**  
**FINANCIAL ENGINEERING AND RISK MANAGEMENT**

Trimester 1 - 2006

**COURSE OUTLINE**

**Contact Details**

Course Coordinator: Dr Leigh Roberts  
Office: RH Rm 323  
Office Hours: Wednesday: 1.00pm – 2.30pm  
Email: leigh.roberts@vuw.ac.nz

**Class Times and Room Numbers**

Lectures are held Thursday 2.30pm to 4.30pm - RLWY 223  
Tutorial Times: Wednesday 11.30am to 12.30pm

The final examination will be held during the mid-year exam period: 12<sup>th</sup> - 23<sup>rd</sup> June, 2006.

**Course Objectives**

To study the institutional framework for financial risk management and credit risk. To develop skills in advanced financial mathematics and apply those skills to credit risk analysis and modelling.

**Course Content**

Institutional background to credit risk. Critique of standard credit risk models, including the modelling of credit risk in the second Basel accord. Mathematical techniques to be studied include stochastic processes, filtrations, and markov chains.

**Readings**

Lecture notes will be made available.

All students proposing taking the course should read the appendix to chapter 1 of the FINM/QUAN 371 notes for some revision of basic mathematics, available from the course coordinator. Other preliminary mathematical reading could be in Moran (1968). Background reading in credit risk measurement and management can be found in McNeil, Frey & Embrechts (2005); Allen, Boudoukh and Saunders (2004); Saunders and Allen (2002) and Caouette, Altman and Narayanan (1998). *inter alia*.

- Allen, L., Boudoukh, J. and Saunders, A. (2004) *Understanding Market, Credit, and Operational Risk: the Value at Risk Approach*, Blackwell.
- Caouette, J.B., Altman, E.I. and Narayanan, P. (1998). *Managing credit risk: the next great financial challenge*, Wiley
- McNeil, A. J., Frey, R. and Embrechts, P. (2005). *Quantitative risk management*, Princeton University Press.
- Moran, P. A. P. (1968). *An Introduction to Probability Theory*. Clarendon Press.
- Saunders, A. and Allen, L. (2002), *Credit Risk measurement: New Approaches to value at risk and other paradigms*. 2<sup>nd</sup> Ed. Wiley.

### **Assessment Requirements**

1. Assignments	20%
2. Term's test	30%
3. Final exam	50%

### **Penalties**

Assignments handed in late will attract a 10% penalty per day for the first five working days, and be awarded zero after five days. Extensions may be negotiated with the coordinator prior to the deadline date.

### **Mandatory Course Requirements**

Students are required to obtain at least 40% in the final exam for a pass.

### **Communication**

Material for the course will be distributed via : <http://blackboard.vuw.ac.nz>

### **Faculty of Commerce and Administration Offices**

#### Railway West Wing (RWW) - FCA Student Administration Office

The Student Administration 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.

#### Easterfield (EA) - FCA/Law Kelburn Office

The Kelburn Campus Office for the Faculties of Commerce & Administration 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, will be open from 9:00 am to 5:00 pm during Trimester 2, offers the following:

- Duty tutors for student contact and advice.
- Information concerning administrative and academic matters.
- FCA Student Administration forms (e.g. application for academic transcripts, requests for degree audit, COP requests).
- Examinations-related information during the examination period.

Please note:

There will be a Student Administration Adviser, from the RWW office, based in EA005 from Monday 27 June to Friday 1 July (9:00 am to 5:00 pm) and from Monday 4 July to Friday 22 July (11:00 am to 1:00 pm).

### **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: [www.vuw.ac.nz/policy/StudentConduct](http://www.vuw.ac.nz/policy/StudentConduct). The policy on Staff Conduct can be found on the VUW website at: [www.vuw.ac.nz/policy/StaffConduct](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: [www.vuw.ac.nz/policy/AcademicGrievances](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 else's 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](http://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 University's website at: [www.vuw.ac.nz/home/studying/plagiarism.html](http://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](mailto: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 coordinator, or Associate Dean who will 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 [www.vuw.ac.nz/st\\_services/](http://www.vuw.ac.nz/st_services/) or email [student-services@vuw.ac.nz](mailto:student-services@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](mailto:education@vuwsa.org.nz).

### **Maori and Pacific Mentoring programme (Manaaki Pihipihinga)**

This is a free programme of mentoring for Maori and Pacific students doing first year courses within the Faculty of Commerce and Administration. Weekly one hour mentoring sessions: drafting and editing assignments/discussing any questions that you might have from tutorials or lectures and going over every aspect of essay writing, either in small group sessions or on a one-to-one basis.

This includes:

- A computer suite hooked up to cyber commons for students to use to produce their assignments.
- Regular skill-based workshops with a learning adviser from Student Learning Support Services.
- Networking with other Maori and Pacific support groups throughout the university.

For more information please contact:

Melissa Dunlop, Programme Coordinator

Ph: 463 6015 or Email: [Maori-Pacific-Mentoring@vuw.ac.nz](mailto:Maori-Pacific-Mentoring@vuw.ac.nz)