

School of Economics and Finance

MMAF 531 SPECIAL TOPIC
MATHEMATICS OF FINANCE

Trimester Two 2006

COURSE OUTLINE

Contact Details

Coordinator Dr Leigh Roberts Email:
 Leigh.Roberts@vuw.ac.nz
RH323 Phone: 463-5937

Contact: Through email or through the tutorials

Administrator Suzanne Freear Email:
 Suzanne.Freear@vuw.ac.nz
RH 327 Phone: 463-5380

Class Times and Room Numbers

Lectures	14.40 – 16.30pm	Tuesday	RWW 315
Tutorials	12.30 – 13.30pm	Monday	RWW 128
	13.40 – 14.30pm	Monday	RWW 128

The final examination will take place between 19 October and 11 November, 2006.

Course Objectives

To gain an appreciation of the theory of compound interest and its applications to insurance on the one hand, and the financial world on the other.

Course Content

The course is modelled closely on the actuarial paper CT1 (formerly paper 102) of the Institute of Actuaries. It is not yet known whether an exemption from the professional examination will be available from a sufficiently good performance in this course.

Principal elements of the syllabus include :

1. Compound interest theory and the simpler annuity and assurance functions, incorporating a simple life table.
2. Valuation of loans, including Makeham's Formula and rule of 78. Income and capital gains tax.
3. Real yield allowing for inflation and indexation. Time weighted rate of return, linked internal rate of return.
4. Duration, matching, immunisation, convexity of a stream of payments.
5. Term structure of interest. Spot and forward interest rates. Deterministic and stochastic interest rate models.

Expected Workload

For students who have followed the normal prerequisites at VUW, 14-16 hours per week should be the weekly average workload, which includes class time but not consultation times at office hours.

Group Work

Group work is not allowed in this course. Students are encouraged to discuss course and assignment materials with classmates. This aspect needs to be clearly understood by students as this encouragement often results in the allegation of plagiarism. The required assessment components given below must be completed using students' own ideas.

Readings

Notes will be made available in blackboard, usually as *pdf* files.

Assessment Requirements

Either	70%	Three hour registry exam in October/November
	15%	Two hour test
	15%	Assignments
or	50%	Three hour registry exam in October/November
	25%	Two hour test
	25%	Assignments

Whichever is to the student's advantage, save that those students obtaining a grade of B+ or better for the course need to obtain at least a B+ under the assessment scheme with the higher final exam component.

It is intended to hold the test a little after halfway through the course. Subject to sufficient speed in processing through the course material the test will be held in class time, on a date to be fixed in consultation with the class.

Assignments

Assignments will be set each second week at the lecture, normally to be handed in at the end of the following week to the Administrator, Suzanne Freear RH Rm327, and will be returned marked in the lecture following.

Penalties

Late submission of assignments will incur a 10 per cent per day penalty for the first five days, and be awarded zero after five days. Extensions may be negotiated prior to the deadline with the lecturer concerned.

Mandatory Course Requirements

Attendance at the 2 hour test and the 3 hour examination is compulsory for a pass.

Communication of Additional Information

Course notices will generally be relayed in class, via email and through the course web-page on BLACKBOARD. Additional information and course announcements will be conveyed via Blackboard. All information will otherwise be held by the Administrator, Suzanne Freear in RH Room 327.

Faculty of Commerce and Administration Offices

Railway West Wing (RWW) - FCA Student and Academic Services Office

The Faculty's Student and Academic Services 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. To check for opening hours call the Student and Academic Services Office on (04) 463 5376.

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

The Kelburn Campus Office for the Faculties of Commerce and Administration, Education 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 is available for the following:

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

To check for opening hours call the Student and Academic Services Office on (04) 463 5376.

General University Policies and Statutes

Students should familiarise themselves with the University's policies and statutes, particularly the Assessment Statute, the Personal Courses of Study Statute, the Statute on Student Conduct and any statutes relating to the particular qualifications being studied; see the Victoria University Calendar available in hard copy or under 'About Victoria' on the VUW home page at www.vuw.ac.nz.

Student 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 are to be taken if there is a complaint. For information about complaint procedures under the Statute on Student Conduct, contact the Facilitator and Disputes Advisor or refer to the statute on the VUW policy website at 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.

Academic Grievances

If you have any academic problems with your course you should talk to the tutor or lecturer concerned; class representatives may be able to help you in this. If you are not satisfied with the result of that meeting, see the Head of School or the relevant Associate Dean; VUWSA Education Coordinators are available to assist in 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 at 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. The University defines plagiarism as follows:

The presentation of the work of another person or other persons as if it were one's own, whether intended or not. This includes published or unpublished work, material on the Internet and the work of other student or staff.

It is still plagiarism even if you re-structure the material or present it in your own style or words.

Note: It is however, perfectly acceptable to include the work of others as long as that is acknowledged by appropriate referencing.

Plagiarism is prohibited at Victoria and is not worth the risk. Any enrolled student found guilty of plagiarism will be subject to disciplinary procedures under the Statute on Student Conduct and may be penalised severely. Consequences of being found guilty of plagiarism can include:

- an oral or written warning
- cancellation of your mark for an assessment or a fail grade for the course
- suspension from the course or the University.

Find out more about plagiarism, and how to avoid it, on the University's website at www.vuw.ac.nz/home/studying/plagiarism.html.

Students with Impairments

The University has a policy of reasonable accommodation of the needs of students with disabilities. The policy aims to give students with disabilities the same opportunity as 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, 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 (DSS) to discuss your individual needs and the available options and support on a confidential basis. DSS are located on Level 1, Robert Stout Building, telephone (04) 463 6070, email disability@vuw.ac.nz. The name of your School's Disability Liaison Person is in the relevant prospectus or can be obtained from the School Office or DSS.

Student Support

Staff at Victoria want students to have positive learning experiences at the University. Each Faculty has a designated staff member who can either help you directly if your academic progress is causing you concern, or quickly put you in contact with someone who can. Assistance for specific groups is also available from the Kaiwawao Māori, Manaaki Pihipihinga or Victoria International.

In addition, the Student Services Group (email student-services@vuw.ac.nz) is available to provide a variety of support and services. Find out more at www.vuw.ac.nz/st_services/.

VUWSA employs 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 (tel. (04) 463 6983 or (04) 463 6984, email education@vuwsa.org.nz) is located on the ground floor, Student Union Building.

Manaaki Pihipihinga - Māori and Pacific Mentoring Programme (Faculty of Commerce and Administration)

This is a mentoring service for Māori and Pacific students studying at all levels. Weekly one hour sessions are held at the Kelburn and Pipitea Campuses in the Mentoring Rooms, 14 Kelburn Parade, and Room 210 and 211, Level 2, Railway West Wing. Sessions cover drafting and discussing assignments, essay writing, and any questions that may arise from tutorials and/or lectures. A computer suite networked to Cyber Commons is available for student use.

To register with Manaaki Pihipihinga, please contact one of the following:

Puawai Wereta
Room 210, Level 2
Railway West Wing
Tel. (04) 463 8997

Email: Puawai.Wereta@vuw.ac.nz

Fa'afai Seiuli
Room 109 B
14 Kelburn Parade
Tel. (04) 463 5842

Email: Faafoi.Seiuli@vuw.ac.nz