

School of Economics and Finance

**QUAN 103**  
**INTRODUCTORY MATHS FOR BUSINESS**

Trimester One 2009

**COURSE OUTLINE**

---

<b>Course Lecturer:</b>	Lindsay Johnston Email: <a href="mailto:lindsay.johnston@vuw.ac.nz">lindsay.johnston@vuw.ac.nz</a>	EA128A Ph: 463 7449
<b>Course Coordinator/ Lecturer</b>	Jacek Krawczyk (pronounced Ya-tcek Kraff-chick) Email: <a href="mailto:jacek.krawczyk@vuw.ac.nz">jacek.krawczyk@vuw.ac.nz</a>	RH325/EA128A Ph: 463 5352
<b>Course Administrator:</b>	Francine McGee Email: <a href="mailto:francine.mcgee@vuw.ac.nz">francine.mcgee@vuw.ac.nz</a>	RH319 Ph: 463 5818

Jacek Krawczyk has overall responsibility for the course and is the person to speak to about course related information. However, he is on Study and Research Leave until 27 April. Until this date, Lindsay Johnston is Acting Course Coordinator. You should see the current lecturer if you are having difficulties with the course or have any academic questions, which you have been unable to resolve at tutorials. The current lecturer is also the person to see if you want to appeal a mark. The Course Administrator is the appropriate person to see about organisational and administrative matters, such as tutorial signups.

**Trimester Dates**

Monday 2 March to Wednesday 1 July 2009.

**Class Times and Room Numbers**

Tuesdays	11.00am – 11.50am	LBLT118
Thursdays	11.00am – 11.50am	LBLT118

**Tutorials (only 1 tutorial is required)**

Tuesday	9.00am – 10.50am	EA004
Tuesday	12.00pm – 12.50pm	OK501
Thursday	9.00am – 10.50am	KK204

Tutorials begin in the 2<sup>nd</sup> week of trimester – Tuesday 10<sup>th</sup> March. You can sign up for a tutorial at <https://signups.victoria.ac.nz>.

**Withdrawal dates:** Information available via  
<http://www.victoria.ac.nz/home/admisenrol/payments/withdrawalsrefunds.aspx>

### Course Objectives

The objective of this course is to provide an introduction to mathematical techniques which are useful for the study and practice of business. (Students planning to advance in Economics or Money & Finance should note that QUAN 111 is the preferred Maths course. In order for QUAN 103 to count as a prerequisite you need at least a B+). The sequence of topics will be as follows:

- §1. Basic algebra
- §2. Functions and graphs
- §3. One-variable differentiation
- §4. Introductory financial maths
- §5. Basic linear algebra

### Course Content

#### *Lecture Schedule*

Readings refer to pages in Maths Made Easy\*

#### Lectures

1.	Introduction; real numbers, operations	*1 – 6
2.	Powers	6 – 7
3.	Roots	7
4.	Inequalities; absolute values	7 – 9
5.	Simplifying expressions	20 – 21
6.	Solving single equations	21 – 23
7.	Simultaneous equations	23
8.	Problems	95 – 98
9.	Logarithms	29
10.	Properties of logs; problems	29 – 30
11.	Functions	37
12.	Graphing straight lines and simple curves	38 – 41
	<i>Mid-term break</i>	
13.	Slopes of straight lines and curves	58 – 61
14.	Derivatives and simple rules	61 – 63
15.	Product and quotient rules	63 – 64
16.	Chain rule	64
17.	Derivatives of log and exponential functions	64
<b>18.</b>	<b>Test on material covered in lectures 1 – 16 and 1 – 22</b>	
19.	Second derivatives, convexity and concavity	73
20.	Local maxima and minima	73
21.	Global maxima and minima	74
22.	Vector operations	108 – 110
23.	Matrix operations	110 – 114
24.	Revision	

## Course Learning Objectives

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

- Comprehend and use basic algebra
- Comprehend and use functions and graphs
- Understand and apply one-variable differentiation (derivatives, product and quotient rules, chain rule, second-order derivatives) to obtain local and global maxima and minima
- Use linear algebra; vectors and matrices.

## Expected Workload

A student with a weak mathematical background and aiming at an average pass should expect to spend ten to twelve hours per week on this subject, two hours in lectures, one hour in a tutorial (optional) and six to nine hours reading, preparing for lectures and tutorials. One point typically equates to 10 hours of work. For a 15 point course, the 150 hours should be spread evenly over the 12 week trimester, break, study week and exam period.

## Readings

The recommended textbook, available at Victoria Book Centre, is:

**Penelope Proffitt, *Maths Made Easy*, (Pearson Ed 2002)**

Available on blackboard are the tutorial and assignment questions.

## Materials and Equipment

You will need a calculator that can evaluate powers and logs.

## Assessment Requirements

**Test 30% + Exam 70% (or Exam 100% if exam mark better than test mark).**

The test, covering Lectures 1 – 16, will be held in class time on Thursday 14<sup>th</sup> May while the exam covering the whole of the course, will be held in the end of trimester examination period (see below for dates of the exam period).

## Examinations

Students who enrol in courses with examinations are obliged to attend their examination at the University during the formal examination period.

Examination dates for trimester one: Friday, 12<sup>th</sup> June to Wednesday, 1<sup>st</sup> July 2009 (inclusive).

## Schedule for Submission of Assignments

Each week, starting in week three an assignment is due at 10am in the Tuesday lecture. Please do not hand your assignments in anywhere else. They will be returned to you in lectures the following Tuesday.

We do not require typed answers to assignments, but we do expect them to be clearly legible; avoid the use of abbreviations and symbols not used in lectures or the textbook. Model answers to assignment questions will be available on Blackboard, so make sure you look at these regularly and learn from your mistakes.

## **Mandatory Course Requirements**

There are no mandatory course requirements for the course.

## **Communication of Additional Information**

Additional material will be posted on Blackboard. Emails may also be sent to the email address that is registered with the University (as on your enrolment).

## **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 on the ground floor (EA005). This counter is the first point of contact for:

- 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.

## **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 identifies material that may have been copied from other sources including the Internet, books, journals, periodicals or the work of other students. Turnitin is used to assist academic staff in detecting mis-referencing, misquotation, and the inclusion of unattributed material, which may be forms of cheating or plagiarism. *At the discretion of the Head of School, handwritten work may be copy-typed by the School and subject to checking by Turnitin.* You are strongly advised to check with your tutor or the course coordinator if you are uncertain about how to use and cite material from other sources. 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.

## **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 or go to [www.victoria.ac.nz/home/about/policy/students.aspx](http://www.victoria.ac.nz/home/about/policy/students.aspx)

For information on the following topics, go to the Faculty's website [www.victoria.ac.nz/fca](http://www.victoria.ac.nz/fca) under Important Information for Students:

- Academic Grievances
- Student and Staff Conduct
- Meeting the Needs of Students with Impairments
- Student Support

### **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 students or staff.*

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

*Note: including the work of others will not be considered plagiarism as long as the work 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:

[www.victoria.ac.nz/home/studying/plagiarism.html](http://www.victoria.ac.nz/home/studying/plagiarism.html)

### **Manaaki Pihipihinga Programme**

Manaaki Pihipihinga is an academic mentoring programme for undergraduate Māori and Pacific students in the Faculties of Commerce and Administration, and Humanities and Social Sciences. Sessions are held at the Kelburn and Pipitea Campuses in the Mentoring Rooms, 14 Kelburn Parade (back courtyard), Room 109D, and Room 210, Level 2, Railway West Wing. There is also a Pacific Support Coordinator who assists Pacific students by linking them to the services and support they need while studying at Victoria. Another feature of the programme is a support network for Postgraduate students with links to Postgraduate workshops and activities around Campus.

For further information, or to register with the programme, email [manaaki-pihipihinga-programme@vuw.ac.nz](mailto:manaaki-pihipihinga-programme@vuw.ac.nz) or phone (04) 463 6015. To contact the Pacific Support Coordinator, email [pacific-support-coord@vuw.ac.nz](mailto:pacific-support-coord@vuw.ac.nz) or phone (04) 463 5842.