ECON90033 Quantitative Analysis of Finance I

Credit Points:	12.50
Level:	9 (Graduate/Postgraduate)
Dates & Locations:	This subject is not offered in 2013.
Time Commitment:	Contact Hours: Three hours per week of lectures and tutorials Total Time Commitment: Estimated total time commitment of 120 hours per semester
Prerequisites:	ECON20003 Quantitative Methods 2 or equivalent. This subject is only available to those students who would satisfy the entry requirements for the Postgraduate Diploma in Finance or the Master of Finance.

Subject	Study Period Commencement:	Credit Points:
ECON20003 Quantitative Methods 2	Not offered 2013	12.50

Corequisites:	None
Recommended Background Knowledge:	None
Non Allowed Subjects:	None
Core Participation Requirements:	For the purposes of considering requests for Reasonable Adjustments under the Disability Standards for Education (Cwth 2005), and Students Experiencing Academic Disadvantage Policy, academic requirements for this subject are articulated in the Subject Description, Subject Objectives, Generic Skills and Assessment Requirements for this entry. The University is dedicated to provide support to those with special requirements. Further details on the disability support scheme can be found at the Disability Liaison Unit website: http://www.services.unimelb.edu.au/disability/
Contact:	Graduate School of Business and Economics Level 4, 198 Berkeley Street Telephone: +61 3 8344 1670 **Online Enquiries (https://nexus.unimelb.edu.au/OnlineEnquiryForm.aspx?campaigncode=CMP-01311-VZ8293&cssurl=https://nexus.unimelb.edu.au/cssfiles/gsbe.css&redirecturl=http://www.gsbe.unimelb.edu.au/contactus/nexus/gsbe.html)** Web: **www.gsbe.unimelb.edu.au (http://www.gsbe.unimelb.edu.au/)**
Subject Overview:	This course is concerned with the application of quantitative tools to model, estimate and forecast financial variables. Topics considered include: the analysis of the properties of financial data (such as non-normality and non-stationarity); the application of estimation methods (such as unit roots and cointegration) to test the rational valuation model of share prices; the application of the GARCH class of models to estimate volatility and to test the capital asset pricing model. The course will also include an introduction to more complex financial econometrics (such as artificial neural-networks, generalised method of moments and state-space modelling).
Objectives:	On successful completion of this subject students should be able to: # Apply quantitative tools to model, estimate and forecast financial variables; # Analyse the statistical properties of financial prices and returns; # Evaluate models of risk based on the Capital Asset Pricing Model and variants assuming non-normal return processes; # Analyse recent advances in unit root and cointegration methods in modeling the term structure of interest rates and asset price bubbles; # Describe the strengths and limitations of alternative quantitative methods by reproducing existing results using computer skills and mathematical modeling techniques, in conjunction with a range of financial data sets;

	# Perform sensitivity analyses on proposed models, which should include the application of alternative distributional specifications to model risk.
Assessment:	Mid-semester assignment (30%) A take-home final examination (70%)
Prescribed Texts:	You will be advised of prescribed texts by your lecturer.
Breadth Options:	This subject is not available as a breadth subject.
Fees Information:	Subject EFTSL, Level, Discipline & Census Date, http://enrolment.unimelb.edu.au/fees
Generic Skills:	On successful completion of this subject, students should have improved the following generic skills: # Evaluation of ideas, views and evidence # Synthesis of ideas, views and evidence # Strategic thinking # Critical thinking # Application of theory to economic policy and business decision making # Accessing economic and other information # Summary and interpretation of information # Application of windows software # Using computer programs # Statistical reasoning # Problem solving skills # Collaborative learning and teamwork # Negotiation and bargaining # Written communication # Oral communication
Notes:	This subject is only available to students in the Postgraduate Diploma in Finance or the first year of the Master of Finance.
Related Course(s):	Master of Finance Postgraduate Diploma in Finance