ACTL40004 Advanced Financial Mathematics I

Credit Points:	12.50		
Level:	4 (Undergraduate)		
Dates & Locations:	This subject is not offered in 2013.		
Time Commitment:	Contact Hours: Three hours of lectures and/or tutorials per week Total Time Commitment: Not available		
Prerequisites:	Both of:		
	Subject	Study Period Commencement:	Credit Points:
	ACTL30006 Financial Mathematics III	Not offered 2013	12.50
	ACTL30005 Models for Insurance and Finance	Not offered 2013	12.50
Corequisites:	None		
Recommended Background Knowledge:	Please refer to Prerequisites and Corequisites.		
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:	mark.joshi@unimelb.edu.au (mailto:mark.joshi@unimelb.edu.au)		
Subject Overview:	The binomial model; risk-neutral pricing of derivative securities; Brownian motion; introduction to Itô#s formula and SDEs; stochastic asset models; Black-Scholes model; arbitrage and hedging; interest-rate models; actuarial applications (e.g. maturity guarantees, SPDAs) and simple models for credit risk.		
Objectives:	 # The binomial model; # Risk-neutral pricing of derivative securities; # Brownian motion; # Introduction to Itô's formula and SDEs; # Stochastic asset models; # Black-Scholes model; # Arbitrage and hedging; # Interest-rate models; # Actuarial applications (e.g. maturity guarantees, SPDAs). 		
Assessment:	A 60-minute mid-semester test (20%) An assignment equivalent to 1000 words due 2nd half of semester (10%) A 2-hour end-of-semester examination (70%)		
Prescribed Texts:	You will be advised of prescribed texts by your lecturer.		
Recommended Texts:	Information Not Available		

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:	# High level of development: written communication; problem solving; statistical reasoning; application of theory to practice; interpretation and analysis.	