University of Pretoria Yearbook 2016

Mathematical models of financial engineering 732 (WTW 732)

Qualification	Postgraduate
Faculty	Faculty of Natural and Agricultural Sciences
Module credits	15.00
Programmes	BScHons Financial Engineering
	BScHons Mathematics of Finance
Prerequisites	No prerequisites.
Contact time	2 lectures per week
Language of tuition	English
Academic organisation	Mathematics and Applied Maths
Period of presentation	Semester 1

Module content

Introduction to markets and instruments. Futures and options trading strategies, exotic options, arbitrage relationships, binomial option pricing method, mean variance hedging, volatility and the Greeks, volatility smiles, Black-Scholes PDE and solutions, derivative disasters.