Liverpool John Moores University

Title:	DERIVATIVE THEORY AND PRACTICE
Status:	Definitive
Code:	**6516CP** (103601)
Version Start Date:	01-08-2013
Owning School/Faculty:	Arts, Professional and Social Studies
Teaching School/Faculty:	Dublin Business School

Team	Leader
Alistair Beere	Y

Academic Level:	FHEQ6	**Credit Value:**	24.00	**Total Delivered Hours:**	77.00
Total Learning Hours:	240	**Private Study:**	163		

Delivery Options
Course typically offered: Standard Year Long

Component	Contact Hours
Lecture	50.000
Tutorial	25.000

Grading Basis: 40 %

Assessment Details

Category	Short Description	Description	Weighting (%)	Exam Duration
Essay	AS1	Continuous Assessment	30.0	
Exam	AS2	Examination	70.0	2.00

Aims

To provide the learner with a concise theoretical and practical understanding of the role and nature of derivatives.
To develop in the learner an in-depth knowledge of the mechanisms and operations of the derivatives markets.
To provide learners with an appreciation of the role, structure and functioning of financial options strategy.
To familiarise learners with the theory and practice of trading strategies involving

derivatives.
To give the learner the ability to apply techniques and models in the pricing and valuing of derivatives.
To give the learner the knowledge to analyse the role of derivatives in the global financial system, the associated risks, their limitations and regulatory implications.

Learning Outcomes

After completing the module the student should be able to:

1	Evaluate and apply knowledge of derivative market theory including an in-depth analysis of option characteristics.
2	Apply theoretical knowledge of derivative market theory in a practical financial working environment.
3	Assess the adequacy, timing and amount of the cash flows and role of volatility in option pricing.
4	Apply the techniques used to value options and other derivatives.
5	Critically evaluate the risks and limitations associated with derivatives and how these risks can be managed/regulated.

Learning Outcomes of Assessments

The assessment item list is assessed via the learning outcomes listed:

Essay	1	2	3	5	
Exam	1	2	3	4	5

Outline Syllabus

1. Introduction to Derivatives Types of derivatives and their role in financial risk. Participants in the derivatives markets. Use of derivatives; hedging, arbitrage and speculation.
2. Option Markets Basic properties of options. Mechanics of option markets. Strategies involving a single option and stock. Spreads, combinations and other payoffs.
3. Pricing and Valuing Options Expected return and volatility theory. Factors affecting option prices. Arbitrage and option pricing. Put/Call Parity model. Upper and lower bounds for option prices. Black-Scholes option pricing model. Risk neutral valuation, Binomial option pricing model.
4. Futures Markets Mechanics of futures markets. Determination of futures prices. Hedging strategies using futures. Participants in the market.
5. Types of Futures Stock index futures, foreign exchange futures-foreign exchange risk, forward rates and dealing with risk. Interest rate futures. Futures contracts and portfolio management.
6. Forward Markets Mechanics of forward market. Determination of forward prices. Interest rate forwards.
7. Stock Indices, Currency and Interest Rate Options Pricing formulas. Options on stock indices. Currency options. Exchange traded bond options. Mortgage backed

securities.
8. Swaps Valuation of swaps; swap pricing and risk. Interest rate swaps. Foreign currency swaps and credit default swaps. Contracts for differences.
9. Understanding and Managing Derivative related Risks Derivatives related risk and losses. Regulatory implications and emerging issues in market regulation.

Learning Activities

Lectures and tutorials.

References

Course Material	Book
Author	Hull, J
Publishing Year	2011
Title	The Fundamentals of Futures and Options Markets
Subtitle	
Edition	7th
Publisher	Prentice Hall
ISBN	

Course Material	Book
Author	McDonald, R.L.
Publishing Year	2012
Title	Derivatives Markets
Subtitle	
Edition	3rd
Publisher	Prentice Hall
ISBN	

Course Material	Book
Author	McDonald, R.L.
Publishing Year	2009
Title	Fundamental of Derivatives Markets
Subtitle	
Edition	1st
Publisher	Prentice Hall
ISBN	

Notes

The module will cover the basic properties, pricing and hedging of futures/forwards, options, swaps and other derivatives traded on financial markets, together with the working mechanism of the derivative markets. The module provides analytical and numerical methods to pricing derivatives contracts. The module covers the use of derivatives in hedging and managing financial risk but also their limitations in

connection with stock market crashes and financial crises.