

## Liverpool John Moores University

Title: THEORY AND PRACTICE OF OPTIONS  
Status: Definitive  
Code: **7513ST** (103714)  
Version Start Date: 01-08-2011

Owning School/Faculty: Liverpool Business School  
Teaching School/Faculty: Dublin Business School

Team	Leader
Graham Padgett	Y

**Academic Level:** FHEQ7  
**Credit Value:** 15.00  
**Total Delivered Hours:** 32.00  
**Total Learning Hours:** 150  
**Private Study:** 118

### Delivery Options

Course typically offered: Runs Twice - S1 & S2

Component	Contact Hours
Lecture	20.000
Tutorial	10.000

**Grading Basis:** 40 %

### Assessment Details

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

### Aims

*To extend the students knowledge of financial options and to provide students with an appreciation of the role, structure and functioning of financial options and the role of volatility in option pricing.*

*To develop students ability to investigate the techniques for determining a fair price valuation and the scope of derivatives for risk transference in a variety of markets facing potentially high volatility.*

*To enable students to use Excel to value financial options.*

## Learning Outcomes

After completing the module the student should be able to:

- 1 Describe the principles of option pricing.
- 2 Compare and contrast alternative fair valuation techniques for pricing derivative instruments.
- 3 Explain the biases in option pricing models.
- 4 Apply an appropriate pricing model to a variety of contingent claim securities.
- 5 Recognise the trading strategy appropriate to expected future market conditions.
- 6 Derive and apply evolving models of derivative options to effectively manage risk transfer and assess their behaviour in the face of volatile financial and economic conditions.

## Learning Outcomes of Assessments

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

Essay	1	4	5	6
EXAM	1	2	3	4

## Outline Syllabus

### *Introduction:*

*The role and structure of options markets. The vocabulary and conventions of option trading. Quotations and characteristics of stock options. Fundamental option strategies.*

### *Option Pricing:*

*The principles of options pricing. Upper and lower bounds. The Binomial Option Pricing Model. The Black and Scholes Option Pricing Model and Merton Option Pricing Models. The 'Greeks'. Using VBA in Excel to create option pricing functions. Biases in option pricing models. Risk-neutral valuation.*

### *Trading Strategies:*

*Trading strategies involving options: Options on stock indices, currencies and interest rates. Exotic options. Structured products.*

### *Use of Financial Options:*

*The use/misuse of financial options in the real world. Growth in trading and trading mechanisms for financial options.*

## Learning Activities

Lecture will introduce the concepts of financial options.

Tutorials will provide practical experience in the application of the concepts

introduced in the lecture and will involve the application of Excel to valuing financial options.

## References

<b>Course Material</b>	Book
<b>Author</b>	Kolb, R
<b>Publishing Year</b>	2007
<b>Title</b>	Futures, Options and Swaps
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	Blackwell Publishers 1405150491
<b>ISBN</b>	

<b>Course Material</b>	Book
<b>Author</b>	Hull, J C
<b>Publishing Year</b>	2008
<b>Title</b>	Options, Futures and Other Derivative Securities
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	7th edition, Prentice Hall (PHIPE) 0136015867
<b>ISBN</b>	

<b>Course Material</b>	Book
<b>Author</b>	Cuthbertson, K and Nitzsche, D
<b>Publishing Year</b>	2001
<b>Title</b>	Financial Engineering
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	Wiley 0471495840
<b>ISBN</b>	

<b>Course Material</b>	Book
<b>Author</b>	McDonald, R
<b>Publishing Year</b>	2005
<b>Title</b>	Derivatives Markets
<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	Pearson International 0321210727
<b>ISBN</b>	

<b>Course Material</b>	Book
<b>Author</b>	Dubofsky, D and Miller, T
<b>Publishing Year</b>	2002
<b>Title</b>	Derivatives: Valuation and Risk Management

<b>Subtitle</b>	
<b>Edition</b>	
<b>Publisher</b>	Oxford University Press Inc, USA 0195114701
<b>ISBN</b>	

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## Notes

Lecture will introduce the concepts of financial options.

Tutorials will provide practical experience in the application of the concepts introduced in the lecture and will involve the application of Excel to valuing financial options.