

Derivatives Pricing and Risk Management

Module Code:	AFE7016-A
Academic Year:	2018-19
Credit Rating:	10
School:	School of Management
Subject Area:	Accounting, Finance and Economics
FHEQ Level:	FHEQ Level 7 (Masters)

Pre-requisites:

Co-requisites:

Contact Hours

Type	Hours
Lectures	12
Tutorials	12
Directed Study	75
Examinations DO NOT USE	1

Availability Periods

Occurrence	Location/Period
BDA	University of Bradford / Full Year (Sept - Aug)
BDA	University of Bradford / Semester 2 (Feb - May)

Module Aims

The module provides you with a detailed understanding of the wide variety of derivatives securities that can be traded both over-the-counter and on financial markets. The module focuses on how such assets are priced and how they can be used for risk management purposes.

Outline Syllabus

Forwards and futures markets and pricing;
Futures hedging strategies;

Binomial option pricing;
 Futures options and derivatives on dividend paying assets;
 The Greeks;
 Option strategies;
 Implied volatility and alternative distributions in pricing options;
 Building interest rate trees;
 Pricing interest rate options;
 Financial risk management.

Module Learning Outcomes

On successful completion of this module, students will be able to...

- 1
 - 1a. demonstrate advanced knowledge and understanding of mathematical finance;
 - 1b. apply computational methods in pricing option and other derivative products;
 - 1c. understand the role of risk management in corporate finance and investments.
- 2
 - 2a. describe the characteristics of basic derivative contracts and important hedging strategies;
 - 2b. prove the theoretical analysis of the Black and Scholes model, and its relationship to the Binomial Option Pricing Model;
 - 2c. price financial options using both analytical and numerical techniques;
 - 2d. describe some popular interest rate option products and be able to calculate their prices
- 3
 - 3a. develop your interpersonal skills and group working ability;
 - 3b. develop confidence in debate and discussion;
 - 3c. develop computing and mathematical skills.

Learning, Teaching and Assessment Strategy

There is a 1-hour staff-led lecture each week followed by a 1-hour student-led seminar. Lectures cover core theory and empirical evidence for the most widely implemented asset-pricing models. In the seminars, you are asked to present solutions to prepared discussion topics and numerical exercises (LO 1a-b, 2a-d). Feedback is provided by hard copy of tutorial solutions and from the tutor/lecturer. The group assignment requires you to demonstrate the ability to work collaboratively and apply appropriate financial techniques (LO 1a-b, 2c-d). The final exam tests your understanding of core concepts and your skills in analysis and problem solving (LO 1a-c, 2a-d, 3a-c). Directed study incorporates personal reading, tutorial preparation, group discussion and exam preparation.

Mode of Assessment

Type	Method	Description	Length	Weighting	Final Assess'
Summative	Examination - closed book	Closed book examination (1.5 hrs)	1.5 hours	50%	Yes

Summative	Coursework	Group coursework (3000 words); Supplementary assessment: Individual coursework (1000 words)	0-3000 words	50%	No
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Legacy Code (if applicable)

MAN4258M

Reading List

To view Reading List, please go to [rebus:list](#).