



APPLIES TO ACADEMIC YEAR 2011/2012

## EXC 3613 Risk Management with Derivatives

### Programme

Bachelor in Business Administration (BBA) (3. year)

### Responsible for the course

Costas Xiouros

### Department

Department of Financial Economics

### Term

According to study plan

### ECTS Credits

7,5

### Language of instruction

English

### Introduction

This course is an introduction to derivative securities and how they are used to manage financial risk. Emphasis is placed on the structure of the derivative securities (principally options, futures and swaps), their pricing, some applications as well as the markets in which they are traded. The central ideas around which the whole course is constructed are those of hedging, replication and arbitrage. These ideas will be developed mostly through economic reasoning and practical examples rather than technical applications. However, a certain level of theory is required to fully understand and appreciate such a technical subject.

### Learning outcome

#### Acquired Knowledge

The successful completion of the course should provide the student with an understanding about:

- The concept behind the basic types of derivatives, that is options, futures and swaps,
- Their economic role and the way they are being used in the financial markets,
- The idea of no-arbitrage, its applicability and its limitations in the presence of market frictions, and
- The economic determinants of derivative prices.

#### Acquired Skills

A student upon the completion of the course should be able to:

- Represent the payoff of a derivative product both diagrammatically and mathematically and as a result
- Derive certain parity relations and price inequalities,
- Construct simple strategies in basic risk-management applications using the standard derivative products and
- Statically replicate the payoff of futures and of options in one-period binomial setting.

#### Reflection

The acquired theoretical and practical knowledge provided by the course should enable the student to critically assess the role and the value of the derivative securities from both a micro and a macro perspective; that is to realize the possible flexibility that they offer to a business operation in the light of how these products are being used in practice.

#### Prerequisites

EXC 2110 Basic Financial Management, EXC 2501 Financial Decision Making, EXC 2505 Empirical Methods in Finance, or equivalent.

#### Compulsory reading

##### Books:

McDonald, Robert L.. 2006. Derivatives markets. 2nd ed. Addison Wesley

#### Recommended reading

##### Books:

Hull, John C.. 2011. Fundamentals of futures and options markets. 7th ed. Pearson

#### Course outline

1. Introduction to risk-management and derivative securities

2. Basic strategies, insurance and hedging using futures, options and swaps
3. Financial Forwards and Futures: Pricing and hedging
4. Commodity Futures: Pricing and cross hedging
5. Parity and other Option relationships
6. Binomial Option pricing: Static replication
7. Black-Scholes Option pricing model

### Computer-based tools

Spreadsheets will be used for certain practical applications and examples. It is recommended that students become familiar with their use.

### Learning process and workload

The course will include a combination of lectures and plenary tutorials where solutions to exercises will be explained and practical examples will be presented.

Specific Information regarding any aspect of student evaluation will be provided in class. It is the student's responsibility to obtain this information. Please note that whilst attendance is not compulsory, it is the students responsibility to obtain any information provided in class that is not included on the course homepage/It's learning or in the text book. Homepages and/or It's learning are not designed for the purpose of students who choose not to attend class.

The following is an indication of the time required:

Activity	Hours
Lectures	39
Plenary tutorials where exercises will be explained	6
Preparation for lectures and plenary tutorials	110
Preparation for the final exam	45
<b>Total recommended use of time</b>	<b>200</b>

### Use of hours

39 hours - Lectures

6 hours - Plenary tutorials where exercises will be explained

45 hours in total

### Examination

The final grade in the course will be based on the following activities and weightings:

40% class work (in the form of a mix of some/ all of the following: hand in of case write ups, projects, and homeworks; case presentations and class participation; in class midterm and quizzes).

60% 3 hour written final exam.

Both parts of the evaluation need to be passed in order to get a grade in the course.

Specific information regarding student evaluation beyond the information given in the course description will be provided in class. This information may be relevant for requirements for term papers or other hand-ins, and/or where class participation can be one for several elements of the overall evaluation.

This is a course with continuous assessment (several exam elements) and one final exam code. Each exam element will be graded using points on a scale (e.g. 0-100). The elements will be weighted together according to the information in the course description in order to calculate the final letter grade for the course. You will find detailed information about the point system and the cut off points with reference to the letter grades on the course site in It's learning.

### Examination code(s)

EXC 36131- Processevaluation, counts 100% towards the final grade in the course EXC 3613 Risk Management with Derivates, 7.5 ECTS.

### Examination support materials

A BI-approved examination calculator, TEXAS INSTRUMENTS BA II Plus™, and interest rate tables are allowed.

Examination support materials in connection with written examinations are specified under exam information in our web-based Student Handbook. Please note the use of calculator and dictionary: <http://www.bi.edu/studenthandbook/examaids>.

**Re-sit examination**

A re-sit is held in connection with the next scheduled examination in the course. Students who are retaking the examination must take the course all over again including all parts of the assessment.

**Additional information**