APPLIES TO ACADEMIC YEAR 2015/2016

EXC 3673 Corporate and Financial Risk Management

Programme
Bachelor of Business Administration (3. year), Exchange Program

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

The objective of this course is to provide students with an understanding of corporate and financial risk management: how to measure their financial risks, why corporations should manage them and what tools they may use to do so, which are mainly the derivative securities. The recent financial crisis, however, has also brought into light the dangers that arise from the improper use of derivative instruments. Derivatives allow a firm to fundamentally alter its risk profile but at the same time they facilitate speculation while a third type of participants are the parties who neither speculate nor manage their risk but try to make small profits from mispricing between derivatives and their underlying assets. As a result a basic understanding and intuition of derivatives markets, its instruments and participants is essential not only to students and specialists in finance, but also to general business practitioners.

During this course you will learn the principles behind risk management and how derivative instruments can be used to change the risk profile of a corporation or simply a financial position. You will also learn the basics about the derivatives markets, namely the regulated exchanges and the over-the-counter markets, and their main characteristics that are important from the point of view of the use and pricing of derivative instruments. The course then delves deeper into the basic derivative instruments, options, forwards, futures (both financial and commodity) and swaps, and deals with their structure, use, pricing and hedging. The central ideas around which the whole course is constructed are those of hedging, replication and arbitrage. These ideas will be developed both through economic reasoning and practical examples as well as technical applications. A certain level of mathematically based theory is required to fully understand, appreciate and be able to apply such a technical subject.

Learning outcome

Acquired

Knowledge

The students will acquire a good understanding of the derivatives markets and the derivatives securities available for trading. More specifically the students will develop their understanding with respect to the following topics:

- The need to identify the factors to which a firm or a financial position is exposed and the ways to measure risk.
- The principle behind risk-management and the ability to evaluate risk-management practices.
- The derivatives markets which are the regulated exchanges and the over-the-counter markets, their participants, their basic functioning and the idiosyncrasies of each.
- The structure and specifics of the basic derivative securities, futures, forwards, options and swaps.
- The principles behind the pricing of each of the derivative securities, namely no-arbitrage when replication is possible and the bounds and relationships that the no-arbitrage assumption imposes.
- Understand the applicability and limitations of the standard pricing techniques.
- The economic role of the derivative securities and the way they are being and can be used in practice.

Acquired

Skills

During the acquisition of the above mentioned knowledge the students will acquire the following skills:

- Identify risk factors and represent the payoff of a derivative product both diagrammatically and mathematically.
- Calculate various measures of the total risk of a corporation or a financial position.
- Alter the exposure to a risk factor using derivative securities and plot the final exposure.
- Construct and evaluate various strategies using derivatives.

- Price forwards and futures using the cost of carry model.
- Price options and other derivative securities using the binomial model.
- Price options using the Black & Scholes option pricing model.
- Hedge forwards and futures.
- Hedge options using the binomial model.

Reflection

The acquired theoretical and practical knowledge provided by the course should enable the student to first understand and be able to apply the basic principle behind the pricing and hedging of derivative instruments especially from the point of view of risk-management. Further the student should acquire the ability to appreciate the financial and economic opportunities that derivative instruments offer while also being able to critically assess their role and practical value in light of how these products are being used in practice.

Prerequisites

EXC 3671 Corporate Finance, EXC 3612 Investment Analysis, EXC 3672 Analyses of Financial Data, EXC 3670 Financial Markets and Institutions, or equivalent.

Compulsory reading

Books:

McDonald, Robert L. 2014. Derivatives markets. 3rd ed., New international ed. Pearson Education. Paper Bound w/CD-ROM, 912 pp, 27 chapters.. eLearning material available at: http://catalogue.pearsoned.co.uk/educator/product/Derivatives-Markets-Pearson-New-International-Edition/9781292021256.page

Recommended reading

Books:

Hull, John C. 2014. Fundamentals of futures and options markets. 8th ed., International ed. Pearson. Paper, 23 chapters, 624 pp

Course outline

1. 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 (Excel) will be used for certain practical applications and examples. It is recommended that students are 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. Several exercises and practice questions will be uploaded on the course website on itslearning in addition to the graded homework assignments.

Specific information regarding any aspect of the course or student evaluation will be provided in class. Please note that whilst attendance is not compulsory, it is the student's responsibility to obtain any information provided in class that is not included on the course website on itslearning or in the text book. The course website on itslearning is not designed for the purpose of students who choose not to attend class.

The following is an indication of the time required:

Activity	**Workload**
Lectures	36
Plenary tutorials where exercises will be explained	6
In-class mid-term exam	2
Preparation for lectures and plenary tutorials	73
Preparation of home assignments and mid-term exam	38
Preparation for the final exam	45
Total recommended use of time	**200**

Use of hours

36 hours – Lectures

6 hours – Tutorials
2 hours – Mid-term exam
1 hours – Coordination of learning activities
45 hours – Total

Examination
This is a course with continuous assessment (several exam components) and one final exam code. Each exam component is graded by using points on a scale from 0-100. The components will be weighted together according to the information below in order to calculate the final letter grade for the examination code (course). Students who fail to participate in one/some/all exam elements will get a lower grade or may fail the course.

The final grade in the course will be based on the following components and weightings:
- 20% Homework individual or group assignments
- 20% Mid-term written or multiple choice exam – will be arranged in class
- 60% 3-hour written final exam.

You will find detailed information about the point system and the cut off points with reference to the letter grades on the course site on Itslearning. Specific information regarding student evaluation beyond the information given in the course description will be provided in class, as for example the form and hand-out dates of the assignments, their due dates as well as the date of the mid-term exam. It is the student's responsibility to obtain this information. The 1.5 hour mid-term exam will take place during a special 2-hour session reserved for this purpose and scheduled along with the class scheduling. The rest of the 0.5 hour can be utilized to respond to questions about the exam as well as to provide and explain the exam solutions.

Unlike other courses with continuous assessment, the examiner will be able to determine the final grade based 100% on the written exam if this is the best interests of the student.

Examination code(s)
EXC 36731 – Process evaluation, counts 100% towards the final grade in the course EXC 3673 Corporate and Financial Risk Management, 7,5 ECTS.

Examination support materials
Interest tables and BI approved exam calculator. Examination support materials at written examinations are explained under examination information in the student portal @bi. Please note use of calculator and dictionary in the section on support materials (https://at.bi.no/EN/Pages/Exa_Hjelpemidler-til-eksamen.aspx).

Re-sit examination
Re-sit examination is offered at the next scheduled course.
At re-sit it will be sufficient to take written exam only to obtain final grade.

Additional information