

FIN4224 Introduction to Financial Derivatives

Code

FIN4224

Title

Introduction to Financial Derivatives

Prerequisites

FIN 3101 Financial Institutions and Markets or FIN 3121 Principles of Finance

Credits

3

Description

The course introduces three general classes of derivative instruments: forwards/futures, options, and swaps. Within each class, students will learn specific derivative products such as commodity, index and interest rate forwards/futures, equity/index options, currency and interest rate swaps etc. The major arbitrage, trading and hedging techniques are introduced throughout the course for each type of the derivative instrument. Students will also learn derivatives' pricing and valuation models using conceptual problems and practical assignments. Students will also learn about the Associate PRM and CFA certificate programs, and will review the derivatives topics which are covered by these programs. In addition, students will be introduced with Stock Track program.

Objectives

The major objective of the course is to develop problem solving, analytical and critical thinking abilities of students in the changeable financial and economic environment. Students will learn about the concept of risk management and use of derivatives to reduce potential risks related to finance activities. At the end of the course, students should be able to explore and construct arbitrage, trading and hedging strategies. They will also learn how to evaluate the performance of their hedged investments relative to the unhedged positions arguing for or against hedging. The course is supplemented by real cases which happened in past with active use of derivatives.

Outcomes

Knowledge Distinguish and discuss the major types of derivative instruments (forwards, futures, options, swaps); Understand the mechanics of futures, option and swap markets; Understand the pricing mechanism of different derivatives products; Understand the nature of swap products; distinguish between different types of swaps; Learn about past financial disasters (derivatives related). Skills Determine Futures, Forwards prices for different types of instruments; Be able to construct the hedging strategies with forwards, futures; Determine option prices with Binominal and Black Sholes models; Estimate the value of interest rate and foreign exchange swaps; Be able to construct hedging strategies with swaps Application Apply the mechanics of Futures and Options markets via Stock track portfolio simulation; Apply the hedging techniques with derivatives using Stock track portfolio simulation; Using of Excel for pricing options; Construction of Excel tables and writing of transaction reports. Values and attitudes: KIMEP Core Values; Academic honesty; Respect for peers and instructors.

Assessment

60 % -first and second assessments

40 % -final assessment

Tentative course outline**Week1**

"Course syllabus presentation Introduction to financial derivatives"

Week2

Mechanics of Futures and Forward Markets

Week3

Tutorial – Chapters 1 and 2

Week4

Determination of Forward and Futures Prices

Week5

Tutorial – Chapter 5

Week6

"Hedging strategies using Futures; Quiz 1 – Chapters 1, 2 and 5"

Week7

"Hedging strategies using Futures; Interest Rates"

Week8

"Tutorial – Chapters 3 and 4 Interest rate Futures"

Week9

"Tutorial – Chapter 6 Homework 1 Mechanics of Option Market"

Week10

"Risk Management (Special Part) Tutorial – Chapter 9 Homework 2 Properties of Stock Options"

Week11

"Quiz 2 – Chapters 3, 4, 6, 9 and Risk Management Trading Strategies Involving Options"

Week12

Tutorial – Chapters 10 and 11

Week13

"Options Pricing: Introduction to Binominal Trees; Option Pricing: the Black-Scholes Model"

Week14

Swaps

Week15

Review before the final assessment