

**NANYANG TECHNOLOGICAL UNIVERSITY
NANYANG BUSINESS SCHOOL**

BF2209: DERIVATIVE SECURITIES

A) Course Aims/Description

This course is an introductory course on financial derivatives and derivatives-linked investments. The derivatives covered include forwards, futures, swaps and options on different underlying assets like stocks, stock indices, commodities and foreign exchange. Through this course, students will learn the features of various derivatives and how to price, value (calculate the Profit/Loss) and structure them for investment and risk management. Students will also learn basic and slightly more advanced option strategies and how to use them for hedging and trading. They will be able to design arbitrage strategies to take advantage of mispricing in various derivatives.

A good understanding of derivatives and its usage/abuses is a prerequisite for effective management of any company as financial risks can cause substantial damage to the P/L of an otherwise well managed firm. Graduates with solid grounding in derivative investments can take up careers as traders, derivatives specialists/advisors, derivatives sales experts, financial engineers and risk managers in treasury departments, trading floors, asset management and risk management divisions in banks and major corporates. On an individual level, understanding of derivatives will help one to appreciate the risk and rewards in the many derivatives-linked investments now increasingly made available to retail investors.

B) Intended Learning Outcomes (ILO)/Objectives

By the end of this course, you should be able to:

1. Describe the general features of derivative securities such as forwards, futures, swaps and options, and identify their similarities and differences.
2. Calculate the price of derivatives and profits of derivative positions.
3. Implement appropriate derivative strategies for investments and risk management.
4. Identify and exploit arbitrage opportunities due to mispriced derivatives.

C) Course Content

See Lecture Topics under Planned Weekly Schedule

D) Assessment (includes both continuous and summative assessment)

Component	Weightage	Team / Individual
1. Tutorial Presentation	5%	Group
2. Group Project	8%	Group
3. Quiz (Online)	15%	Individual
4. Class Participation	12%	Individual
5. Final Examination	60%	Individual
Total	100%	

Week	Weekly Topics
1	Background Knowledge on (Continuous) Interest Rates Introduction to Derivatives
2	Mechanics of Futures Markets Hedging Strategies using Futures
3	Determination of Forward and Futures Prices
4	Interest Rate Futures
5	Swaps
6	Mechanics of Options Markets Properties of Stock Options
7	Trading Strategies involving Options
	RECESS WEEK
8	Binomial Trees
9	Black-Scholes-Merton (BSM) Model
10	Options on Stock Indices and Currencies
11	Quiz (tentative timing, details will be confirmed)
12	Project Presentation
13	Course Wrap-up and Exam Briefing