

NANYANG TECHNOLOGICAL UNIVERSITY
NANYANG BUSINESS SCHOOL

BR2204 Introduction to Financial Risk Management

A) Course Aims/Description

This course aims to provide RMI major students with a basic knowledge of the standard instruments used in financial risk management, and emphasizes on their applications in hedging risks and creating various risk profiles consistent with the investor's expectations of asset price movements. Students will be equipped with skills for making decisions of managing financial risks through understanding how to value and to employ derivative securities in a variety of contexts.

B) Intended Learning Outcomes (ILO)/Objectives

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

1. Explain the economics of risk management
2. Calculate payoffs and profits from forward and option contracts
3. Determine how to use derivatives as a risk management tool
4. Price financial / commodity forwards and futures
5. Evaluate interest rate forwards and futures, swaps
6. Define option contracts and price options by binomial option model
7. Apply the Black-Scholes option pricing model
8. Gain mathematical foundation of the Black-Scholes model
9. Apply the BS model to market making and delta hedging
10. Apply the option pricing to corporate finance
11. Use the option pricing for real options

C) Course Content

- Basics of risk management
- Forward and option contracts
- Application of derivatives to risk management
- Pricing of forwards, futures and swaps
- Binomial option pricing model
- The Black-Scholes option pricing model
- Market making and delta hedging
- Corporate application of the option pricing
- Real options

D) Assessment (includes both continuous and summative assessment)

Component	Weightage	Team/Individual
1. Final Examination	50%	Individual
2. Assignments	30%	Group work (See #1 for evaluation)
3. Project - (written report)	20%	Group (See #1 for evaluation and #2 for the topic)
Total	100%	

Planned Weekly Schedule

Week	Topic
1	Economics of risk management
2	Introduction to derivative securities
3	Introduction to derivative securities
4	Forwards, futures, and swaps
5	Forwards, futures, and swaps
6	Options and binomial option pricing model
7	The Black-Scholes option pricing model I
8	The Black-Scholes option pricing model II
9	Market-making and delta-hedging
10	Corporate application of option pricing
11	Real option
12	Project
13	Review