



北京理工大学学术学分课程

Beijing Institute of Technology Academic
Credit Courses Program

FIN9572-DERIVATIVES VALUATION RISK MANAGEMENT

Syllabus

Jan.3, 2019 – Jan.26, 2019

Term Duration: Jan. 3, 2019 –Jan. 26, 2019
Credit Points: 4
Level: Postgraduate
Instructor Name: TBA
Home Institution: Beijing Institute of Technology
Lecture Hour: 12:40-15:30
Office Hour: TBA

Course Description

The course provides an advanced insight in Finance of the design, use and pricing of derivatives in risk management. The course emphasizes on the derivatives securities and risk management, including an introductory theory and a working knowledge of futures, options, and swaps. Working knowledge component will be covered the main types of derivatives contracts and valuation techniques as well as advanced quantitative and analytical methods.

Required Textbook

John Hull Options, Futures and other Derivatives: 8th. Edition,
Author: John C. Hull
Publisher: Pearson
ISBN: 0132162768

Course Hours

The course has 14 class sessions and 1 field trip in total. Each lecture session is 180 minutes in length. The classes are from Monday to Friday.

Prerequisite Course

None

Course Schedule

| Week | Day | Date | Chapter | Topic | Assignment/ Notes |
|--------|------|--------------|---------------|--|---|
| Week 1 | Thu. | Jan.3, 2019 | Introduction | What Is Fundamentals of Derivative Securities | Group Discuss: Forward, Futures and Options |
| Week 2 | Mon. | Jan.7, 2019 | Chapter 2,4 | Introduction to Mechanics of Futures Markets , Interest Rates and Interest Rate Futures I | Theories of the Term Structure of Interest Rates |
| | Tue. | Jan.8, 2019 | Chapter 3,5 | Hedging Strategies Using Futures | Forward Prices and Futures Prices |
| | Wed. | Jan.9, 2019 | Chapter 6 | Introduction to Mechanics of Futures Markets , Interest Rates and Interest Rate Futures II | Team Work: Interest Rates and Interest Rate Futures |
| | Thu. | Jan.10, 2019 | Chapter 7,8 | General Analysis of Currency Swaps and Securitization | Valuation of Currency Swaps and Credit Risk |
| Week 3 | Mon. | Jan.14, 2019 | Chapter 9,11 | Basic Introduction to Trading Strategies Involving Options | Group Discuss: Trading Strategies |
| | Tue. | Jan.15, 2019 | Chapter 12,13 | Binomial Option Pricing Models and Wiener processes and Itô's Lemma | Binomial Option Pricing Models |
| | Wed. | Jan.16, 2019 | Chapter 14 | General Analysis of The Black—Scholes—Merton Model | Group Discuss |
| | Thu. | Jan.17, 2019 | Chapter 25,27 | Analysis of Multiple Stock Portfolio | Portfolio of Two Shocks |
| | Fri. | Jan.18, 2019 | Field Trip | Site Visit at Fortune 500 Corporation | Case study |
| | Mon. | Jan.21, 2019 | Chapter 17,25 | Futures Options, Exotic Options and Real Options | Group Discuss: Futures Options, Exotic Options and |

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|--------|------|-----------------|------------------|--|--|
| Week 4 | | | | | Real Options |
| | Tue. | Jan.22, 2019 | Chapter 20,26 | Analysis of Numerical Procedures | Alternatives to Black—Scholes— Merton |
| | Wed. | Jan.23, 2019 | Chapter 33,35 | Credit Derivatives and Risk, Energy and Commodity Derivatives | Pricing Weather and Insurance Derivatives |
| | Thu. | Jan.24, 2019 | Presentation | Engineering institutions and their Standard Contracts | |
| | Sat. | Jan.26, 2019 | Final Exam | | |

Grading Policy

| Items | Percentage |
|------------|------------|
| Attendance | 10% |
| Case study | 40% |
| Final Exam | 50% |
| Total | 100% |

Academic Honesty

Academic honesty is not only a fundamental part of learning and teaching, but also a core value that this course embraces. Behaviors of academic dishonesty, as outlined hereinafter, are unacceptable and will be penalized:

- a) Plagiarism where students present work for assessment, publication or otherwise that is not their own, without appropriate attribution or reference to the original source. Plagiarism can include:
 - i) paraphrasing or copying published and unpublished work without a reference;
 - ii) adopting the ideas or concepts of others, including the structure of an existing analysis without due acknowledgement by way of reference to the original work or source.
- b) Collusion, where students present work as independent work when it has in fact been produced in whole or in part with others unless prior permission for joint

or collaborative work has been given by the Course Coordinator. Collusion can include:

- i) a student inappropriately assisting with or accepting assistance with the production of an assessment task;
 - ii) submitting work which is the same or substantially similar as another student's work for the same assessment task.
- c) Cheating, where a student acts in such a way as to seek to gain unfair advantage or assist another student to do so. Cheating can include:
- i) submitting falsified, copied or improperly obtained data relating to results of practicum, field trips or other work as if they were genuine; submitting an assessment task with the intention of deceiving or misleading the instructor about the student's contribution to the work;
 - ii) submitting an assessment task written or answered for the student by another person or which the student has copied from another person;
 - iii) submitting the same or a substantially similar piece of work for assessment in two different courses (except in accordance with approved study and assessment schemes);
 - iv) a student falsely indicating that they have been present at an activity where attendance is required;
 - v) completing an assessment task outside the conditions specified for that task.
- d) Cheating in Examinations means engaging in dishonest practice or breaching the rules regarding examinations, which can include:
- i) communicating in any way during an examination with any person who is not an examination supervisor inside or outside the examination venue;
 - ii) giving or accepting assistance from any person who is not an examination supervisor whilst in the examination venue;
 - iii) reading, copying from or otherwise using another student's work in an examination or knowingly allowing a student to do so;
 - iv) possessing, referring to or having access to any material or device containing information directly or indirectly related to the subject matter under examination, other than that explicitly approved by the Course Coordinator;
 - v) acquiring, or attempting to acquire, possess or distribute examination materials or information without approval;
 - vi) permitting another person to attend an examination on a student's behalf or attending an examination on behalf of another student;
- e) Other dishonest acts including but not limited to:
- i) altering or falsifying any document or record for the purposes of gaining academic advantage;
 - ii) offering or giving money or any item or service to a University staff member or any other person to gain academic advantage for the student or another person;
 - iii) inventing references.