

## Instructor

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## Course Description

This course provides practical working knowledge of options valuation and its applications. The first part of the course covers the basic models of option pricing, including the binomial tree model and the Black-Scholes model. The second part of the course teaches how to use these models and principles to value various derivative securities and to manage market risk. Cases are used to provide students with experiences of applying these models and principles to complex problems in the real world. Popular instruments in the Hong Kong market (e.g., equity linked notes) will also be discussed.

## Prerequisites

Basic knowledge of bonds, stocks, CAPM, market efficiency  
A little knowledge of calculus and statistics  
Some knowledge of Microsoft Excel

## Course Materials

John C. Hull: *Options, Futures, & Other Derivatives*, Prentice Hall  
(Required, available at University Bookstore)  
Articles, cases, homework, etc.  
(Will be made available during classes)

## Course Work

Class Participation: Necessary but not graded  
Exercises: Questions in the textbook, not graded,  
Cooperation encouraged.  
Four sets of homework: 20% of the course grade, complete individually  
One cases: 20% of the course grade, complete by group (3~5 people).  
Final Exam: 60% of the course grade

## Topics and Textbook Reading

| Topics   | Textbook                |
|--|-------------------------|
| Options contracts and markets                                  | 1.3, 7.1-10 (optional)  |
| Restrictions to option prices                                  | 3.1-3, 8.1-8            |
| Trading strategies and hedging                                 | 9.1-4                   |
| Models of stock prices   | 11.1-7, 12.1-4          |
| Binomial tree models   | 10.1-8, 18.1            |
| The Black-Scholes model  | 12.5-9, 12.11-12        |
| Dividend and index options                                     | 12.13, 13.1-3           |
| Futures and currency options                                   | 3.2-9, 13.4-9, 18.2     |
| Managing options risk and<br>Portfolio management with options | 3.10, 14.1-10, 14.12-13 |
| Value at risk  | 16.1-9                  |
| Hong Kong Applications (ELN, CGF, PDC)                         |                         |

