

Futures and Options

Course Information

Instructor: Chen, Hui-Chieh 陳慧捷

Class Time: Wednesday 13:00-16:00

Instructor Consultation: By appointment - jennyccu@ccu.edu.tw

Course Objective

This course introduces the fundamental concepts of derivatives, with a focus on futures and options. Students will develop an understanding of derivative markets, pricing mechanisms, and trading strategies. In addition to the textbook content, three workshops are designed to strengthen the mathematical foundations of derivatives, including European option pricing and numerical methods for American option pricing.

Textbook

Hull, J. C., Fundamental of Futures and Options Markets, International edition (9th).

Grading Policy

Mid-term Exam 40%

Final Exam 60%

Note: Workshop content will not be tested directly on exams. However, active participation is strongly encouraged, as the workshops are designed to enhance long-term learning and practical application.

Schedule

Week 1: 9/10	Chapter 1: Introduction
Week 2: 9/17	Chapter 2: Futures Markets and Central Counterparties
Week 3: 9/24	Chapter 3: Hedging Strategies Using Futures
Week 4: 10/1	Chapter 5: Determination of Forward and Futures Prices
Week 5: 10/8	Chapter 9: Mechanics of Option Markets
Week 6: 10/15	Chapter 10: Properties of Stock Options
Week 7: 10/22	Chapter 11: Trading Strategies Involving Options
Week 8: 10/29	Chapter 12: Introduction to Binomial Trees
Week 9: 11/5	Mid-term Exam
Week 10: 11/12	Chapter 13: Valuing Stock Options: The Black-Scholes-Merton Model
Week 11: 11/19	Chapter 17: The Greek Letters
Week 12: 11/26	Workshop 1: Introduction to Financial Mathematics (Stochastic Calculus)

Week 13: 12/3	Workshop 2: Pricing Derivatives
Week 14: 12/10	Workshop 3: Monte Carlo Simulation (Ch18.6)
Week 15: 12/17	Final Exam
Week 16: 12/24	<i>Flexible Week</i>
Week 17: 12/31	<i>Flexible Week</i>
Week 18: 1/7	<i>Flexible Week</i>