

**UCSD**  
**Department of Economics**

**ECON 174**  
Financial Insurance  
Spring Term, 2005  
MWF, 10:00-10:50  
Center Hall 216

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REQUIRED TEXT	John C. Hull "Fundamentals of Futures & Options Markets". Prentice Hall, 5 <sup>th</sup> ed.
PREREQUISITES	Econ 120ABC and (100A or 170A)

**COURSE DESCRIPTION**

This is a course on financial risk management that addresses how individuals and corporations can use financial instruments to hedge risk factors. The course starts out covering concepts such as moral hazard, asymmetric information and adverse selection and addresses why some insurance markets exist while others don't. It then introduces the main risk factors that corporations are faced with such as fluctuations in exchange rates, interest rates and oil prices. Details are provided on how to set up hedging strategies based on trades in futures and options markets. Special topics such as credit, weather, energy and insurance derivatives are also covered.

Grading	
Problem Sets	20%
Midterm	30%
Final	50%

Problem sets are due at the beginning of class on the due date. Work handed in should reflect the student's individual effort.

Midterm date: Wednesday April 27, in class

Final date: Tuesday, June 7, 8:00-11:00 according to course catalogue

There are no alternate exam times. Students in need of special exam accommodations, must inform the instructor during the first two weeks of class and provide appropriate documentation.

No cell phone use in class or during exams.

Warning: Chapter and page assignment are taken from the text's 4<sup>th</sup> edition. The 5<sup>th</sup> edition was not available at the time of the syllabus printing. I will update when available and post on the class web page.

### I. Basic Concepts in Insurance

1. Insurance and risk management. Sources of risk: exchange rate, interest rate and oil price volatility. Credit, weather, energy and insurance derivatives. Hull ch.20. Special report on insurance in The Economist, March 8, 2003.
2. Risk Pooling and Risk Sharing. Hedgers and Speculators. Hull ch.1.
3. Evaluating risk: A review of some basic principles in finance. Diversifiable, systematic risk. Hedging irrelevance proposition.
4. Measuring risk. Value at Risk. Downside risk. Hull ch.16.
5. Why do some insurance markets not exist? Moral Hazard, Asymmetric Information, Adverse Selection. George Akerlof, *Quarterly Journal of Economics*, 1970, 84, 488-500.

### II. Futures/Forward Markets

1. Mechanics of Futures and Forward Markets. Hull ch.2.
2. Pricing of Futures and Forward Contracts. Arbitrage Pricing. Hull ch.3
3. Hedging Strategies with Futures. Hull ch.4.
4. Interest Rate Management case study: The Orange County Bankruptcy. Hull ch.5.
5. Swaps. Hull ch.6.

### III. Options Markets

1. Introduction to Options Markets. Hull ch.7.
2. Basic Principles of Stock Option Contracts. Hull ch.8.
3. Investment Strategies and Payoffs from Options Strategies. Hull ch.9.
4. Pricing Stock Options I: The Binomial Model. Hull ch.10.
5. Pricing Stock Options. II: Black-Scholes. Hull ch.11.
6. Risk management with options. Hull ch.15, pages 299-321.
7. Portfolio Insurance. Hull ch.15 pages 321-26.

Announcements and further resources are available from the Course web page