

**UNIVERSITY OF ILLINOIS  
GIES COLLEGE OF BUSINESS**

Finance 591  
Asset Pricing Theory

Fall 2022  
August 22, 2022

Professor George Pennacchi  
4041 BIF, 515 E. Gregory Drive, Champaign, Illinois 61820  
Phone: (217) 244-0952, Email: [gpennacc@illinois.edu](mailto:gpennacc@illinois.edu)  
Office Hours: Tuesdays 12:00 p.m. – 1:00 p.m. and 5:00 p.m. – 6:00 p.m. or by appointment.

**Course Syllabus**

Course Materials:

The course website for textbook chapters, textbook end-of-chapter exercise and exam solutions, and class presentations is at <https://gpennacc.web.illinois.edu/fin591.html> . The required textbook is Pennacchi, G., 2008, *Theory of Asset Pricing*, Pearson Education, Boston, MA. Pdf files of the chapters are at the course website, so you need not purchase a copy of this book.

Quizzes, problem sets, optional videos, and additional notes can be found at the Finance 591 Canvas webpage <https://canvas.illinois.edu/> .

Useful References:

Back, K., 2017, *Asset Pricing and Portfolio Choice Theory*, Oxford University Press.

Campbell, J., 2018, *Financial Decisions and Markets*, Princeton University Press.

Cochrane, J., 2005, *Asset Pricing*, Princeton University Press.

Duffie, D., 2001, *Dynamic Asset Pricing Theory*, Princeton University Press.

Merton, R.C., 1993, *Continuous-Time Finance*, Blackwell Publishers.

Course Outline and Readings:

**I. Single-Period Portfolio Choice and Asset Pricing**

1. Expected Utility and Risk Aversion

Chapter 1, *Theory of Asset Pricing*

Machina, M., 1987, “Choice Under Uncertainty: Problems Solved and Unsolved,”  
*Journal of Economic Perspectives* 1, 121-154.

Rabin, M. and R. Thaler, 2001, “Risk Aversion,” *Journal of Economic Perspectives* 15,  
219-232.

2. Mean-Variance Analysis

Chapter 2, *Theory of Asset Pricing*

Anderson, R. and J-P. Danthine, 1981, “Cross Hedging,” *Journal of Political Economy*  
89, 1182-1196.

3. The CAPM, Arbitrage, and Linear Factor Models  
 Chapter 3, *Theory of Asset Pricing*  
 Fama, E. and K. French, 2004, "The Capital Asset Pricing Model: Theory and Evidence,"  
*Journal of Economic Perspectives* 18, 25-46.
4. Consumption-Savings Decisions and State Pricing  
 Chapter 4, *Theory of Asset Pricing*
5. Limits to Arbitrage  
 Note on Limited Arbitrage (Available at Finance 591 course website.)  
 Gromb, D. and D. Vayanos, 2010, "Limits of Arbitrage," *Annual Review of Financial Economics* 2, 251-275.

## **II. Multiperiod Consumption, Portfolio Choice, and Asset Pricing**

6. A Multiperiod Discrete Time Model of Consumption and Portfolio Choice  
 Chapter 5, *Theory of Asset Pricing*
7. Multiperiod Market Equilibrium  
 Chapter 6, *Theory of Asset Pricing*  
 The Lucas Model in O. Blanchard and S. Fischer, 1989, *Lectures on Macroeconomics*,  
 MIT Press, p.506-12.  
 Asset price bubbles in O. Blanchard and S. Fischer, 1989, *Lectures on Macroeconomics*,  
 MIT Press, p.211-26.

## **III. Contingent Claims Pricing**

8. Basics of Derivative Pricing  
 Chapter 7, *Theory of Asset Pricing*  
 Cox, J., S. Ross, and M. Rubinstein, 1979, "Option Pricing: A Simplified  
 Approach," *Journal of Financial Economics* 7, 229-63.
9. Essentials of Diffusion Processes and Itô's Lemma  
 Chapter 8, *Theory of Asset Pricing*
10. Dynamic Hedging and PDE Valuation  
 Chapter 9, *Theory of Asset Pricing*  
 Merton, R.C., 1973, "Theory of Rational Option Pricing," *Bell Journal of Economics* 4  
 141-143.
11. Arbitrage, Martingales, and Pricing Kernels  
 Chapter 10, *Theory of Asset Pricing*  
 Cox, J., and C. Huang, 1989, "Option Pricing Theory and Its Applications," in S.  
 Battacharya and G. Constantinides, eds., *Theory of Valuation: Frontiers of  
 Modern Financial Theory*, Rowman & Littlefield, Totowa, NJ.
12. Mixing Diffusion and Jump Processes  
 Chapter 11, *Theory of Asset Pricing*

Tsai, J. and J. Wachter, 2015, "Disaster Risk and Its Implications for Asset Pricing," *Annual Review of Financial Economics* 7, 219-252.

#### IV. Asset Pricing in Continuous Time

##### 13. Continuous-Time Consumption and Portfolio Choice

Chapter 12, *Theory of Asset Pricing*

Wachter, J.A., 2002, "Portfolio and Consumption Decisions under Mean-Reverting Returns: An Exact Solution for Complete Markets," *Journal of Financial and Quantitative Analysis* 37, 63-91.

##### 14. Equilibrium Asset Returns

Chapter 13, *Theory of Asset Pricing*

Cox, J., J. Ingersoll, and S. Ross 1985 "An Intertemporal General Equilibrium Model of Asset Prices," *Econometrica* 53, 363-384.

Cox, J., J. Ingersoll, and S. Ross 1985 "A Theory of the Term Structure of Interest Rates," *Econometrica* 53, 385-408.

#### V. Additional Topics in Asset Pricing

##### 15. Time-Inseparable Utility

Chapter 14, *Theory of Asset Pricing*

Constantinides, G., 1990, "Habit Formation: A Resolution of the Equity Premium Puzzle," *Journal of Political Economy* 98, 519-543.

Campbell, J. and J. Cochrane, 1999, "By Force of Habit: A Consumption-Based Explanation of Aggregate Stock Market Behavior," *Journal of Political Economy* 107, 205-251.

Obstfeld, M., 1994, "Risk-Taking, Global Diversification, and Growth," *American Economic Review* 84, 1310-1329.

##### 16. Behavioral Finance and Asset Pricing

Chapter 15, *Theory of Asset Pricing*

Barberis, N., M. Huang and T. Santos, 2001, "Prospect Theory and Asset Prices," *Quarterly Journal of Economics* 116(1), 1-53.

Kogan, L., S. Ross, J. Wang, and M. Westerfield, 2002, "The Price Impact and Survival of Irrational Traders," *Journal of Finance* 61, 195-229.

##### 17. Asset Pricing with Differential Information

Chapter 16, *Theory of Asset Pricing*

Grossman, S., 1976, "On the Efficiency of Competitive Stock Markets Where Traders Have Diverse Information," *Journal of Finance* 31, 573-585.

Kyle, A., 1985, "Continuous Auctions and Insider Trading," *Econometrica* 53, 1315-35.

##### 18. Models of Default Risk

Chapter 18, *Theory of Asset Pricing*

Sundaresan, S., 2013. "A Review of Merton's Model of the Firm's Capital Structure with Its Wide Applications," *Annual Review of Financial Economics* 5, 21-41.

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## **Structure of the Course**

The course follows a “flipped” classroom structure. Prior to each class meeting, you will be responsible for viewing class presentations (which summarize textbook chapters and have optional accompanying videos), answering short quiz questions on this material, and asking at least one question about the material. During class, the presentations are reviewed and discussed and questions are answered.

Specifically, I will post information on which presentations to read, optional video links, and short quiz questions on Canvas at least 3 days before class. Prior to class you are required to read the presentations or the relevant textbook chapters (and view the videos if you want more explanation) and then answer the assigned quiz questions. **Your answers to these quiz questions, which are submitted in Canvas, are due by 11:00 a.m. on the day of the class.**

In addition, four problem sets will be given over the course of the class covering previously-discussed material. These problem sets will be posted on Canvas and deadlines for completing them will be given.

There will be a **mid-term examination** given in class on **Wednesday October 12, 2022**.

A final examination will be scheduled during the December 9-16, 2022 final examination period.

## **Grading Policy**

Scores on quizzes and problem sets: 30% of total grade

Score on Midterm Exam: 30% of total grade

Score on Final Exam: 40% of total grade

The course letter grade will be assigned based on a curve of the weighted average of scores on quizzes and assignments, the mid-term exam, and the final exam. Pluses and minuses may be given.

## **Academic Integrity**

You are expected to uphold the highest standards of academic honesty and abide by the University’s policies on academic integrity. You are responsible for knowing and following the University’s rules given at <https://studentcode.illinois.edu/article1/part4/1-401/>.