ECO 5281-01: Financial Economics 1

Spring 2008
TR 12:30–1:45 Bellamy 203

Instructor:	Paul Beaumont
Office:	Bellamy 276
Phone:	644-7085
Email:	beaumont@fsu.edu
Office Hours:	TWR 11:00–12:20 or by appointment

Course Materials: The required text for the class is:
Intermediate Financial Theory, 2^{nd} edition by Jean-Pierre Danthine and John B. Donaldson (Elsevier Academic Press, 2005).

I have not used this text before so this will be a new experience for all of us. My plan is to spend the semester working through the entire text in detail. Since there is more material in the text than we can discuss during class sessions, I strongly encourage you to purchase a copy of the text so that you can read it on your own and come to class prepared for discussions. The second edition is a substantial revision over the first edition so make sure you get the correct edition of the text. There will also be several articles assigned to provide more background on specific topics. All of these articles are available online and will be posted in the "Course Material" folder of the class blackboard page.

Another useful text at about the same level and the one that I have used previously is: *Principles of Financial Economics* by Stephen LeRoy & Jan Werner (Cambridge Univ. Press, 2001). A slightly more advanced text that I recommend for Ph.D. students is *Asset Pricing: Revised Edition* by John Cochrane (Princeton Univ. Press, 2005). A slightly more introductory text for those who do not have an economics background is *Financial Economics* by Eichberger & Harper (Oxford Univ. Press, 1997). T

Course Description: Financial economics is the theoretical underpinnings of finance and financial engineering and this course is intended to provide a comprehensive introduction to this topic. The course is necessarily abstract and theoretical. We will focus on decision-making under uncertainty, portfolio choice and asset valuation in nonproduction or endowment economies. Financial Economics 2 extends these ideas to production-based economies and introduces several extensions such as banks and governments.

Course Objectives: By the end of this course you should be familiar with: the essential theoretical framework which underlies modern finance; the dynamic programming models used in asset pricing theory; the various equilibrium and arbitrage pricing methods and the relationships between them; expected and nonexpected utility theory; the role of complete and incomplete markets in asset pricing;

and optimal portfolio selection. Specific applications that you should become familiar with are the CAPM and APT pricing models, the term-structure of interest rates, and option pricing models.

Grading: Your grade will be determined as follows:
60% from a series of short quizzes,
40% from a final exam on Tuesday, April 22, 10:00 AM to noon in 203 Bellamy.

Assignments and Responsibilities:

Readings: In addition to the text, class readings will be available on the class blackboard page in the "Course Material" folder. You are expected to read the material *before* coming to class and be prepared for in-class discussion.

Class Discussion: Since this is a graduate level course, I do not intend to *read* the text to you. You should read the assigned material before coming to class and come to class prepared to ask questions about material that you did not understand clearly. I will focus on problem solving and interpretation of the material but my primary role is to try to answer your questions.

Quizzes: To encourage you to come to class prepared, on random days I will begin the class with a 15 minute quiz over the day's material. The quizzes will start promptly at the beginning of class and end promptly after 15 minutes. There will be no make-ups or time extensions for the quizzes. I will grade the quizzes on a simple 0 to 4 scale. I expect to give about 10 quizzes during the semester and I will keep only your 6 highest scores when computing your course grade. In other words, the 6 highest scores you receive on your quizzes will each count for 10% of your grade for a total of 60% of your course grade. We will discuss the solutions to the quiz immediately after the quiz. I will likely ask students to come to the board to present their solutions.

Final Exam: The final exam will be cumulative and will count for 40% of your course grade. The exam will be given during the scheduled final exam period: Tuesday, April 22, 10:00–noon in 203 Bellamy. The exam cannot be rescheduled. I will not give you a make-up because you plan to fly home early. *Plan on this date now!*

Exercises: I will assign regular problems to help you prepare for the quizzes and to better understand the material. I will post the assignments in the "Assignments" folder of the class blackboard page. We will discuss the solutions to these problems in class as needed. These problem sets will not be turned in or graded but quizzes will be drawn from these problems and variations on them.

Approximate Course Schedule: We will follow the Danthine & Donaldson text quite closely with some supplemental material added where needed from articles and from Cochrane's book. Our plan is to cover the entire book except chapter 15 at the rate of one chapter per week. We will see if we can stick to this schedule.

Week	Date	Day	Topics	Reading
1	1/8	T	Discounting; equilibrium vs. arbitrage	D&D 1 & 2
	1/10	R	consumer theory and general equilibrium	D&D app. 1
2	1/15–17	T R	Choice under uncertainty	D&D 3
3	1/22–24	T R	Measuring risk	D&D 4
4	1/29–31	T R	Investment demand	D&D 5
5	2/5–7	T R	Frontier returns	D&D 6, Cochrane
6	2/12–14	T R	Capital Asset Pricing Model	D&D 7
7	2/19–21	T R	Arrow-Debreu Pricing I	D&D 8
8	2/26–28	T R	Consumption-based CAPM	D&D 9
9	3/4–6	T R	Arrow-Debreu Pricing II	D&D 10
10	3/11–13	T R	SPRING BREAK	
11	3/18–20	T R	Martingale Measure I	D&D 11
12	3/25–27	T R	Martingale Measure II	D&D 12
13	4/1–3	T R	Arbitrage Pricing Theory	D&D 13
14	4/8–10	T R	Long Run Portfolio Management	D&D 14
15	4/15–17	T R	Heterogeneous Agents	D&D 16
	4/22	T	Final Exam 10:00 AM – noon in 203 Bel.	Cumulative

Academic Honor Code: Students are expected to uphold the Academic Honor Code published in The Florida State University Bulletin and the Student Handbook. The Academic Honor System of The Florida State University is based on the premise that each student has the responsibility (1) to uphold the highest standards of academic integrity in the student's own work, (2) to refuse to tolerate violations of academic integrity in the university community, and (3) to foster a high sense of integrity and social responsibility on the part of the university community.

Please see the following web site for a complete explanation of the Academic Honor Code. (http://www.fsu.edu/Books/Student-Handbook/codes/honor.html)

Americans with Disabilities Act: Students with disabilities needing academic accommodation should: (1) register with and provide documentation to the Student Disability Resource Center; (2) bring a letter to the instructor indicating the need for accommodation and what type. This should be done during the first week of class.

For more information about services available to FSU students with disabilities, contact the

Student Disability Resource Center
Dean of Students Department
08 Kellum Hall

Florida State University
Tallahassee, FL 32306–4400
(850) 644-9566 (voice)
(850) 644-8504 (TDD)
SDRC@admin.fsu.edu
http://www.fsu.edu/∼staffair/dean/StudentDisability/

Syllabus Change Policy: This syllabus is a guide for the course and is subject to change with advanced notice.

Additional Reading List

This is a fairly comprehensive reading list of papers that students who intend to take the field exam in financial economics should read. Starred items are particularly important background papers. I will announce in class any readings that will be covered on exams.

(1) Equilibrium & Arbitrage
   (a) *Campbell, J. Y. 2000. "Asset pricing at the millennium." *Journal of Finance*, **55(4)**: 1515–1567.
   (b) *Cochrane, J. H. 1999. "New facts in finance." The Center for Research in Security Prices Working Paper # 490, University of Chicago, Graduate School of Business.
   (c) Cox, J., Ingersoll, J., and Ross, S. 1985. An intertemporal general equilibrium model of asset prices. *Econometrica*, **53**: 363–84.
   (d) *Varian, H. 1987. The arbitrage principle in financial economics. *Journal of Economic Perspectives*, **1(2**): 55–72.

(2) Valuation & Financial Markets
   (a) *Arrow, K. 1964. The role of securities in the optimal allocation of risk bearing. *Review of Economics Studies*, **31**: 91–6.
   (b) Diamond, P. 1967. The role of a stock market in a general equilibrium model with technological uncertainty. *American Economic Review*, **57**: 759–76.
   (c) Duffie, D. 1991. "The theory of value in security markets." Chap 31 in *Handbook of Mathematical Economics,* vol. IV, edited by W. Hidenbrand and H. Sonnenschein. Amsterdam: North-Holland.
   (d) Hansen, L. P., Heaton, J., and Luttmer, E. 1995. "Econometric evaluation of asset pricing models." *The Review of Financial Studies*, **8**: 237–274.
   (e) Hansen, L. P., and Jagannathan, R. 1991. "Implications of security market data for models of dynamic economies." *Journal of Political Economy*, **99**: 225–262.
   (f) Hansen, L. P., and Richard, S. F. 1987. "The role of conditioning information in deducing testable restrictions iimplied by dynamic asset pricing models." *Econometrica*, **55**: 587–614.

(3) Risk & Decision-Making under Uncertainty

(a) *Campbell, J. 1996. Understanding risk and return. *Journal of Political Economy*, **104**: 298–354.
(b) *Machina, M. 1987. Choice under uncertainty: Problems solved and unsolved. *Journal of Economic Perspectives*, **1(1)**: 121–54.
(c) Merton, R. 1982. "On the microeconomic theory of investment under uncertainty." Chap. 13 in *Handbook of Mathematical Economics,* vol. II, edited by K. Arrow and M. D. Intriligator. Amsterdam: North-Holland.
(d) Radner, R. 1982. "Equilibrium under uncertainty." Chap. 20 in *Handbook of Mathematical Economics,* vol. II, edited by K. Arrow and M. D. Intriligator. Amsterdam: North-Holland.
(e) Starmer, C. 2000. "Developments in non-expected utility theory: The hunt for a descriptive theory of choice under risk." *Journal of Economic Literature*, vol. XXXVIII (June 2000): 332–382.

(4) Mean-Variance Analysis & Optimal Portfolios
(a) *Cochrane, J. H. 1999. "Portfolio advice for a multifactor world." The Center for Research in Security Prices Working Paper # 491, University of Chicago, Graduate School of Business. (Can be downloaded from the Social Science Research Network Electronic Paper Collection: http://papers.ssrn.com/paper.taf?abstract id=171724)
(b) Dybvig, P., and Ross, R. 1985. Yes, the APT is testable. *Journal of Finance*, **40**: 1173–88.
(c) Fama, E., and MacBeth, J. 1973. Risk, return and equilibrium: Empirical tests. *Journal of Political Economy*, **71**: 607–36.
(d) Jagannathan, R. and McGrattan, E. R. 1995. "The CAPM Debate." *Federal Reserve Bank of Minneapolis Quarterly Review* **19**, 4: 2–17.
(e) *Lintner, J. 1965. "Security prices, risk and maximal gains from diversification." *Journal of Finance*, **20**: 587–615.
(f) *Markowitz, H. 1952. "Portfolio selection." *Journal of Finance*, **7**: 77–99.
(g) *Roll, R. 1977. A critique of the asset pricing theory's tests. Part I: On past and potential testability of the theory. *Journal of Financial Economics*, **4**: 129–76.
(h) Ross, S. 1976. Arbitrage theory of capital asset pricing. *Journal of Economic Theory*, **13**: 341–60.
(i) *Sharpe, W. 1964. "Capital asset prices: A theory of market equilibrium under conditions of risk." *Journal of Finance*, **19**: 425–442.

(5) Equilibrium Prices: Consumption-Based Asset Pricing
(a) Campbell, J. Y. 2002. "Consumption-Based Asset Pricing." NBER Working Paper.
(b) Campbell, J. Y., and Cochrane, J. H. 1999. "By force of habit: A consumption-based explanation of aggregate stock market behavior." *Journal of Political Economy*, **107(2)**: 205–251.
(c) Campbell, J. Y., and Cochrane, J. H. 2000. "Explaining the poor performance of consumptioin-based asset pricing models." *Journal of Finance*, **55(6)**: 2863–2878.

(d) Flavin, M. 1983. Excess volatility in the financial markets: A reassessment of the empirical evidence. *Journal of Political Economy*, **91**: 929–56.
(e) Guvenen, F. 2002. "A parsimonious macroeconomics model for asset pricing: Habit formation or cross-sectional heterogeneity?" University of Rochester Working Paper.
(f) Hansen, L., and Jagannathan, R. 1991. Restrictions on Intertemporal marginal rates of substitution implied by asset returns. *Journal of Political Economy*, **99**: 225–62.
(g) Heaton, J. 1995. An empirical investigation of asset pricing with temporally depend preferences specifications. *Econometrica*, **63(3)**: 681–717.
(h) Judd, K. L., Kubler, F. and Schmedders, K. 2003. Asset Trading Volume with Dynamically Complete Markets and Heterogeneous Agents. *The Journal of Finance* **LVIII**, No. 5: 2203–2217.
(i) *Lucas, R. 1978. Asset prices in an exchange economy. *Econometrica*, **46**: 1429–45.
(j) McGrattan, E. R., and Prescott, E. C. 2001. "Taxes, regulations, and asset prices." Federal Reserve Bank of Minneapolis Working Paper.
(k) Mehra, R. 2003. The equity premium puzzle: Why is it a puzzle? NBER Working Paper 9512.
(l) Mehra, R. and Prescott, E. 1985. The equity premium: A puzzle. *Journal of Monetary Economics*, **15**: 145–61.
(m) Mehra, R. and Prescott, E. 2003. "The equity premium in retrospect". Chapter 14 in *Handbook of the Economics of Finance,* edited by G. M. Constantinides, M. Harris and R. Stulz. Elsevier.
(n) Merton, R. C. 1973. "An intertemporal capital asset pricing model." *Econometrica*, **41**: 867–887.

(6) Martingales and Asset Pricing
(a) Harrison, J., and Pliska, S. 1981. Martingales and stochastic integrals in the theory of continuous trading. *Stochastic Processes and Their Applications*, **11**: 215–60.
(b) *Leroy, S. 1989. Efficient capital markets and martingales. *Journal of Economic Literature*, **27**: 1583–1621.
(c) *Samuelson, P. 1965. Proof that properly anticipated prices fluctuate randomly. *Industrial Management Review*, **6**: 41–50.

(7) Dynamic Optimization and other Methods
(a) Brock, W., and Mirmam, L. 1972. Optimal economic growth and uncertainty: The discounted case. *Journal of Economic Theory*, **4**: 479–513.
(b) Sundaresan, S. M. 2000. "Continuous-time methods in finance: A review and an assessment." *Journal of Finance*, **55(4)**: 1569–1622.

(8) The Term Structure of Interest Rates
(a) *Campbell, J. 1995. Some lessons from the yield curve. *Journal of Economic Perspectives*, **9(3)**: 129–52.
(b) Cox, J., Ingersoll, J., and Ross, S. 1985. A theory of the term structure of interest rates. *Econometrica*, **53**: 385–408.

(9) Options & Financial Derivatives

(a) Black, F. and Scholes, M. 1973. The pricing of options and corporate liabilities. *Journal of Political Economy*, **3**:637–54.
(b) Cox, J., Ross, S., and Rubinstein, M. 1979. Option pricing: A simplified approach. *Journal of Financial Economics*, **7**: 229–63.
(c) Heath, D., Jarrow, R., and Morton, A. 1992. Bond pricing and the term structure of interest rates: A new methodology for contingent claims valuation. *Econometrica*, **60(1)**: 77–106.
(d) *Jarrow, R. A. 1999. "In honor of the Nobel Laureates Robert C. Merton and Myron S. Scholes: A partial differential equation that changed the world." *Journal of Economic Perspectives*, **13(4)**: 229–248.
(e) Merton, R. C. 1973. Theory of rational option pricing. *Bell Journal of Economics and Management Science*, **4**: 141–83.
(f) *Merton, R. C. 1998. "Applications of option-pricing theory: Twenty-five years later." *American Economic Review*, **88(3)**: 323–349.
(g) *Rubinstein, M. 1987. Derivative assets analysis. *Journal of Economic Perspectives*, **1(2)**: 73–93.
(h) *Scholes, M. S. 1998. "Derivatives in a dynamic environment." *American Economic Review*, **88(3)**: 350–370.