FE 523 Investment Analysis and Portfolio Theory
Fall 2009

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Course Data:	Hours/Room:	M 7-10pm/Vedat Yerlici Conference Hall MX

Textbook:

Luenberger, D.G., *Investment Science*, Oxford University Press, 1998.

References:

Elton, E.J. and Gruber, M., *Modern Portfolio Theory and Investment Analysis*, 5th Ed., Wiley, 1995.

Brandimarte, P., *Numerical Methods in Finance. A MATLAB-Based Introduction*, Wiley, 2002.

Week Commencing	***Topics***
Sept 28	Introduction; Hilbert's decision problem: Godel, Turing, and Chaitin; Samuelson's 1965 and 1973 papers; arts and crafts of investment
Oct 5	Rate of return, variance, feasible set; the Markowitz model, efficient frontier; risk-free asset and one-fund theorem
Oct 12	Programming approach; shortcomings of the Markowitz model, different risk measures (HW 1) –do we have a *reliable* risk measure?
Oct 19	Efficient market hypothesis, market equilibrium; capm model, beta; security market line –we *can* comfort ourselves
Oct 26	Correlation pricing; certainty equivalent; factor models (HW 2)
Nov 2	Efficiency and bounded rationality; critique of equilibrium; *review for the first exam*
	First Exam
Nov 9	Recap derivatives, derivative strategies; simple lattice models, risk-neutral pricing; swaps (HW 3) –cdo, what is wrong with it?
Nov 16	Measuring and modeling option risks: delta, gamma-shadow gamma; vega and the volatility surface; Derman-Taleb-Wilmott 2008 argument
Nov 23	The term structure of interest rates, yield curve, forward rates, duration, convexity; expectation dynamics (HW 4) –any ISLM basis?
Nov 30	Kurban Bayramı; a *fun reading* set: Searle's free-will, phenomenology, and Cantor's continuum hypothesis
Dec 7	Interest rate derivatives, the Black-Derman-Toy model, matching the term structure (HW 5)
Dec 14	Immunization; *review for the second exam*
	Second Exam
Dec 21	IR-derivatives (cont'd); interest rate dynamics; dynamic portfolio selection (HW 6) –*buy and hold* is a dynamic strategy, ya why not?
Dec 28	General investment evaluation, dynamic strategies

Class Policies:

Homeworks: There are six different sets, questions required computation be graded for 20% of the final grade. *Term exams:* Two in-class exams, 25% each of the final grade; each borrows heavily from Homework sets. *Final exam:* 30% of the final grade; covers all the material.