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Syllabus ORF 435

Financial Risk Management

Fall 2009

Objectives: This course covers the basic concepts of modeling, measuring and managing financial risks. Topics include mean-variance portfolio theory, fixed income securities, options pricing, Greeks, risk measures and utility functions.

Lecture: MW 1:30 pm - 2:50 pm, Room: E-Quad, E-225

Precept: TBA

TA: Benjamin Beugnies (beugnies@Princeton.edu)

Course Outline: The course will cover the topics below. Topics are not necessarily of equal length. This outline is subject to change.

Topic 1: Mean-Variance Portfolio Theory, Markowitz Model, Capital Asset Pricing Model ([L] 6-7)

Topic 2: Random Variables, Random Vectors, Distributions

Topic 3: Fixed Income Securities: Bonds, Term Structure of Interest Rates, Duration ([L] 2-4, [H])

Topic 4: Option Pricing: Binomial Model, Black Scholes Option Pricing, Greeks ([L], [H])

Topic 5: Risk Measures ([FS])

Topic 6: Utility Functions ([L], [FS])

Textbook:

- Luenberger [L] (1998): Investment Science. Oxford University Press.

Other books that might be helpful:

- John Hull [H] (2008): Options, Futures and other Derivatives, 7th Edition, Prentice Hall.
- Föllmer, Schied [FS] (2004): Stochastic Finance. De Gruyter.

References listed next to each topic indicate where you can look for further information in these books.

Assessment: The final grade will be comprised of:

- 40% Homework assignments
- 20% Midterm Exam
- 40% Final Exam

Both exams will be closed book but you may bring one double-sided, letter sized "cheat sheet" with you. You should also bring a (basic) calculator.

Syllabus ORF-FIN 535

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Lectures meet concurrently with ORF 435. Credit for graduate course requires completion of additional assignments.

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