

Professor

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Overview and Objectives

The purpose of this course is to cover fundamental and advanced concepts in portfolio theory, focusing both on theoretical and practical aspects of the models. The first part of the course covers modern portfolio theory, factor models of security returns, and portfolio choice with return predictability in a classical framework. The second part of the course covers various approaches developed to cope with estimation error and parameter uncertainty in portfolio construction, including shrinkage techniques, Bayesian, and robust portfolio strategies.

Course Outline

- Mean-Variance analysis
 - Mean-Variance portfolios
 - Out-of-sample performance
 - Shrinkage and portfolio constraints
- Factor models
- Time series predictability
 - Predictive regressions
 - Present value formulas
 - Market timing
- Black–Litterman model
- Bayesian portfolio analysis
 - Bayesian allocation with i.i.d. returns
 - Bayesian allocation with predictable returns
- Robust portfolio analysis
 - Uncertainty aversion and the max-min approach
 - Robust portfolios with parameter and model uncertainty
 - Robust-Bayesian portfolios