Summary
The course covers a wide range of topics in investment analysis.

Content
Topics include portfolio selection, equilibrium asset pricing, arbitrage pricing, market efficiency, behavioral finance, tests of asset pricing models, trading strategies in equity, fixed income, foreign exchange, and commodity markets, as well as dynamic asset allocation.

The course is rigorous, and students are expected to be able to understand and apply quantitative methods. Examples will illustrate real-world applications of the theory.

Keywords
Investments, portfolio choice, asset pricing.

Learning Prerequisites
Required courses
- Introduction to finance
- Stochastic calculus
- Econometrics

Learning Outcomes
By the end of the course, the student must be able to:
- Derive the mean-variance efficient frontier, analyze diversification benefits, and explain the concept of risk parity
- Explain the Capital Asset Pricing Model (CAPM) and describe extensions of the framework including those that take into account liquidity, consumption, and intertemporal issues
- Implement models with macro factors and portfolio factors including the Fama and French model; compare and contrast the Arbitrage Pricing Theory (APT) with the CAPM
- Assess / Evaluate the empirical performance of asset pricing models with particular emphasis on size and value anomalies, the risk anomaly, and liquidity
- Characterize empirical evidence for limits to arbitrage; explain biases in investors' decision making
- Contrast different approaches to estimating the yield curve including bootstrapping, cubic splines, and Nelson-Siegel; suggest relative-value trading strategies in fixed-income markets
• Implement and describe hedging strategies using duration and convexity concepts
• Characterize the expectation hypothesis including the empirical evidence or lack thereof
• Design trading strategies in foreign exchange and commodity markets based on carry and momentum
• Derive dynamic asset allocation strategies in settings with stochastic interest rates and stochastic risk premia

Transversal skills
• Assess one’s own level of skill acquisition, and plan their on-going learning goals.
• Take feedback (critique) and respond in an appropriate manner.

Teaching methods
Lectures and exercises

Assessment methods
30% combined weight on weekly assignments given during the course
30% mid-term exam - closed-book
40% final exam - closed-book

Supervision
Office hours       Yes
Assistants        Yes
Forum             Yes

Resources
Bibliography
The main textbook for the course is:
Zvi Bodie, Alex Kane, and Alan Marcus. Investments. McGraw-Hill.

In addition, a number of journal articles will be used.

Ressources en bibliothèque
• Investments / Bodie

Moodle Link
• http://moodle.epfl.ch/course/enrol.php?id=9371

Prerequisite for
• Advanced derivatives
• Credit risk
• Venture capital