Professor	Prof. Dr. Bernhard Nietert
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ECTS	6
Examination	Final exam (60 minutes)
Course description and learning objectives	The lecture gives an introduction into no arbitrage theory under certainty, portfolio selection, CAPM, and hedging.
Course outline	1 Investment Analysis under Certainty 1.1 Motivation 1.2 Arbitrage Theory under Certainty 1.2.1 Introductory Example 1.2.1 Arbitrage Theory (under Certainty) 1.3 Investment Analysis on Imperfect Markets 1.3.1 Taxes 1.3.2 Transaction Costs 2 Portfolio Selection 2.1 Bond Portfolio Selection: Duration 2.1.1 Underlying Decision Problem 2.1.2 Analysis of the Wealth Change, i.e., Materialization of Interest Rate Risk in the Outcome 2.1.3 Introduction to Duration-Based Bond Portfolio Selection 2.1.4 Advanced Duration-Based Bond Portfolio Management 2.1.5 Evaluation of Duration-Based Bond Portfolio Management 2.2 Portfolio Selection Theory 2.2.1 Trade-off between Risk and Opportunities: μ-σ-preferences and Maximum Principle of Efficiency 2.2.2 μ-σ-efficient Portfolios of Risky Assets (Markowitz Diversification) 2.2.3 μ-σ-efficient Portfolios of Risky and Riskless Assets (Markowitz Tobin Diversification) 2.2.4 Summary on μ-σ-efficient Portfolios 3 Asset Pricing 3.1 The Capital Asset Pricing Model (CAPM) 3.1.1 Derivation of the Basic Price Equation 3.1.2 Return Formulation of the CAPM 3.1.3 Side Aspect of Asset Pricing Results: Variance Decomposition 3.1.4 Use of the CAPM (in the Industry) 3.2 Pricing of Options 3.2.1 Institutional Details 3.2.2 Pricing of European Options in the Binomial Model 3.2.3 The Transition from the Discrete-time and -state to the Continuous-time and -state Model: the Black/Scholes Formula 4 Corporate Finance: Hedging 4.1 Definition of Terms

	4.1.1 Overview of Types of Classical Derivatives 4.1.2 Further Institutional Details on Selected Derivatives 4.2 Implementation Hedging 4.2.1 Perfect Hedge 4.2.2 Cross Hedge
Selected References	– Lecture notes – Cochrane, J. H. (2005): "Asset Pricing", revised edition, Princeton 200 – Copeland, T. W., Weston, J. F., and Shastri, K. (2005): "Financial Theory and Corporate Policy", 4th edition, Boston et al. 2005 – Hull, J. C. (2014): "Options, Futures, and Other Derivatives", 9th edition, Upper Saddle River 2014