University of Zurich[UZH] | ETH Eidgenössische Technische Hochschule Zürich Swiss Federal Institute of Technology Zurich

Master of Science UZH ETH in Quantitative Finance

Mathematical Foundations for Finance

Lecturers: Prof. Dr. Walter Farkas, Prof. Dr. Martin Schweizer

Credits (ECTS): 4.0

Course contents:

First introduction to main ideas and tools from mathematical finance, Financial market models in finite discrete time, Absence of arbitrage and martingale measures, Valuation measures, Valuation and hedging in complete markets, Basics about Brownian motion, Stochastic integration, Stochastic calculus: Ito formula, Girsanov transformation, Ito's representation theorem, Black theorem, Black-Scholes formula