Mathematical Foundations for Finance

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

Credits (ECTS): 4.0

Course contents:

- Financial market models in finite discrete time
- Absence of arbitrage and martingale measures
- Valuation and hedging in complete markets
- Basics about Brownian motion
- Stochastic integration
- Stochastic calculus: Itô's formula, Girsanov transformation, Itô's representation theorem
- Black-Scholes formula