**Announcement SoSe 2016**
**Lecture in Mathematical Finance**

# Continuous Time Finance (FIM)

## Prof. Dr. Rudi Zagst

**Area: / Modulnr.:** FIM – Core course / MA9973

**Course Structure**: Lecture: 2h Exercises: 1h Programming Exercises: Voluntary

**Content**: Stochastic processes, Itô calculus, financial markets, arbitrage and completeness, pricing and hedging of contingent claims, Black-Scholes model and generalizations, pricing of exotic options, stochastic volatility and jump models, numerical methods; voluntarily: implementation of financial models (Monte Carlo simulation, Fourier pricing, etc.)

**Audience:** MSc Finance & Information Management

**Prerequisite:** MA9972 - Discrete Time Finance
MA4405 - Stochastic Analysis/Quantitative Methods in Finance (recommended)

**Literature**:
**S.E. Shreve (2004):** Stochastic Calculus for Finance II: Continuous-Time Models, Springer Finance
**J.C Hull (2009):** Optionen, Futures und andere Derivative, Pearson, München
**R. Zagst (2002):** Interest Rate Management, Springer Finance
**N.H. Bingham und R. Kiesel (2004):** Risk-Neutral Valuation: Pricing and Hedging Financial Derivatives, Springer Finance
**M. Musiela und M. Rutkowski (2005):** Martingale Methods in Financial Modelling Vol. 36, Springer

**Certificate**: Written or oral examination, 4 CP

**Time:** T.B.A.

**Location:** University of Augsburg