Forschungsgruppe Finanz- und Versicherungsmathematik
TUM School of Computation, Information and Technology
Technische Universität München

Announcement SoSe 2023

Lecture in Mathematical Finance

Financial Mathematics 2

Prof. Dr. Rudi Zagst

Area: / Modulnr.: Mathematical Finance / MA3408

Course Structure: Lecture: 4h
Exercises: 2h

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, implementation of financial models (Monte Carlo simulation, Fourier Pricing, etc.).

Audience: MSc Mathematics, MSc Mathematical Finance and Actuarial Science

Prerequisite: MA0009 (Introduction to Probability and Statistics),
helpful: MA4405 (Stochastic Analysis)

Literature:

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
S.E. Shreve (2004): Stochastic Calculus for Finance II: Continuous-Time Models, Springer Finance
J.C. Hull (2006): Options, Futures, and Other Derivatives, Prentice-Hall
M. Musiela und M. Rutkowski (2005): Martingale Methods in Financial Modelling, Vol. 36, Springer

Certificate: Exam, 9 CP

Lecture/Exercises: see TUMonline