

COMPUTATIONAL FINANCE

Lecturer

Dr. Tim A. Kroencke

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Dates

Lecture and Tutorial

Friday 17.01.14, 8.00 – 18.00 h

Saturday 18.01.14, 8.00 – 16.00 h

Friday 24.01.14, 8.00 – 18.00 h

Saturday 25.01.14, 8.00 – 16.00 h

Student project presentations

Friday 28.03.14, 8.00 – 18.00 h

Saturday 29.03.14, 8.00 – 16.00 h

Content

The course provides an introduction to computational methods in finance, following a hands-on approach. Students will learn step by step how to implement workhorse methods of financial research using Matlab. At the end of the course, students have the opportunity to implement own research ideas and to present their findings to the others. No prior knowledge of Matlab is required.

Outline

Session 1: Getting Started

Session 2: Functions

Session 3: Simulation

Session 4: Volatility Modeling

Session 5: GARCH and VaR

Session 6: Stock Return Predictability

Session 7: Multiple Securities and Portfolios

Session 8: Factor Models / Asset Pricing

Session 9: Implementing Generalized Method of Moments

Session 10: Performance Evaluation

Session 11: Student project presentations

Assessment

Assessment will be based on collaboration during lectures/tutorials and the student project presentations. Details on the student projects will be specified during the first lecture.