Leibniz Universität Hannover

WiSe 2017/18 10268
Quantitative Risk Management

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General Information

- **Lecture** by Dr. Sojung Kim

  Tuesday 10:15 - 11:45 (Begin: 17 October, 2017) @ F128, 1101
  Friday 10:15 - 11:45 (Begin: 20 October, 2017) @ F442, 1101
  Office hour: by appointment, at the office B406, 1101
  Email: sojung(at)stochastik.uni-hannover.de

- **Exercise** by M. Sc. Kerstin Weske

  Thursday 16:00 - 18:00 (Begin: 19 October, 2017) @ A310, 1101
  Email:weske(at)stochastik.uni-hannover.de

- **Main textbook** Quantitative Risk Management: concepts, techniques, and tools (2015, second edition) by A. J. McNeil, R. Fey, and P. Embrechts

Course Topics

This course deals with quantitative modelling issues arising in the field of finance, insurance, and other operations. The over-arching aim of this course is to ensure students gain basic concepts in risk management, useful statistical models, and quantitative methodologies to analyze many risk factors. To be specific, the important topics include **risk measures and risk aggregation, extreme value theory, multivariate modelling, copulas and dependence structure, and credit risk management**.

Course work will include regular homework assignments and a final written exam. The requirement of homework to pass the course is 50%. Most of homework assignments will involve computer implementation, and you will be required to submit your analysis of the results as well as a pseudo-code. Use of MATLAB for computer work is encouraged.

For prerequisites, students should have a general understanding of calculus, probability theory, mathematical statistics and stochastic processes. It will be helpful if one has some knowledge of financial markets and instruments. An ability to use basic programming (eg. MATLAB, C) is also required.