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Course Announcement

In winter term 2020/21 I shall read the BMS Basic Course

Stochastic Processes I / Stochastik II

Lecture:

Detailed lecture notes will be provided each week via the moodle platform.
Discussion and question time via zoom, arranged on
Tuesday 11:15 a.m. or Thursday 9:15 a.m.
All information via moodle. Please register in Agnes or with Bernhard Stankewitz.

Class: (Bernhard Stankewitz): Tuesday 13:15-14:45 p.m. (via zoom)

Topics:

Poisson process, construction of stochastic processes, conditional expectation, martingales and stopping times, martingale convergence theorems, ergodic theorems, Markov processes, probability measures on Polish spaces, Brownian motion and Brownian bridge, Donsker Theorems

Prerequisites: Stochastics I (including measure and integration theory)

Literature:

H. Bauer, *Probability Theory*, de Gruyter
R. M. Dudley, *Real Analysis and Probability*, Cambridge University Press
G. Grimmet, D. Stirzacker, *Probability and Random Processes*, Oxford University Press
J. Jacod, P. Protter, *Probability Essentials*, Springer
A. Klenke, *Probability Theory*, Springer
D. Meintrup, S. Schäffler, *Stochastik: Theorie und Anwendungen*, Springer
D. Williams, *Probability with Martingales*, Cambridge University Press

All books except for the last one are available as *eBook* via the HU library!