

Prof. Dr. Johannes Schmidt-Hieber
Dr. Sascha Gaudlitz

Course Announcement

Nonparametric Statistics

Winter semester 2026/27

Lectures and exercise class

	Day	Time	Room
Lecture	Tuesday	11:00–13:00	1.115
Lecture	Thursday	13:00–15:00	1.115
Exercise class	Thursday	11:00–13:00	3.011

First lecture: 13.10.2026.

All classes: Rudower Chaussee 25 (Johann-von-Neumann Haus).

Exercise class instructor: Dr. Nicolai Amann.

Content

Nonparametric regression, density estimation, kernel and projection estimators, upper risk bounds, adaptive estimation, minimax lower bounds, neural networks.

Prerequisites

Stochastik I is required. *Stochastik II* and *Mathematical Statistics* are helpful but not required.

Literature

- Richard J. Samworth and Rajen D. Shah (2026): *Modern Statistical Methods and Theory: An Introduction to Nonparametric and High-Dimensional Statistics*. Cambridge University Press.
- Alexandre B. Tsybakov (2009): *Introduction to Nonparametric Estimation*. Springer.
- Larry Wasserman (2006): *All of Nonparametric Statistics*. Springer.
- Iain M. Johnstone (2019): *Gaussian Estimation: Sequence and Wavelet Models*. Draft, September 16, 2019.
- M. P. Wand and M. C. Jones (1995): *Kernel Smoothing*. Chapman & Hall.
- Evarist Giné and Richard Nickl (2016): *Mathematical Foundations of Infinite-Dimensional Statistical Models*. Cambridge University Press.