



PhD Course

Advanced Modelling and Optimization

Block course: June 29th – July 2nd, 2026

(Moorweidenstr. 18, room 0005.1, daily 09h00 – 16h00)

Course Instructor:	Prof. Dr. Malte Fliedner/ Prof. Dr. Knut Haase
Student evaluation:	Successful completion of work assignments
Teaching language:	English
Registration:	in STiNE
Course Value:	2 SWS or 5 Leistungspunkte / credit points

Course Objectives:

This course builds up on the fundamentals of linear and combinatorial optimization and equips students with a set of advanced modeling tools to solve optimization models from different fields of application. Students learn to formulate optimization models as mixed-integer linear programs, how to solve them with standard software and how to construct heuristic solution algorithms. Successful participants will be able to deal with the complexity of real-world decision problems via aggregation, relaxation, and decomposition techniques.

This course is aimed at Ph.D. students in information systems, business administration, and computer science. Participants are expected to have a solid understanding of the basics of modeling and optimization and will be provided with an advanced understanding of algebraic optimization models and solution methods.