



PhD Course

Advanced Modelling and Optimization

Block course: June 16th – 19th, 2025

(Moorweidenstr. 18, room 2029, 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.