



## PhD Course

### Advanced Modelling and Optimization

Block course: June 13<sup>th</sup> – 17<sup>th</sup>, 2022

(Moorweidenstr. 18, room 0029; Mo-Thu 9h00 – 18h00, Fr 9h00 – 13h00)

**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.