

Masterseminar Management Science/Operations Research

Optimization for Modern Logistics and Mobility Concepts



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Topic: This Master's seminar delves into the application of Operations Research (OR) models and methods to optimize processes in various fields. Throughout the seminar, we will explore the pivotal role OR plays in logistics and transport, focusing on its practical applications and benefits. Students will gain insights into how OR methodologies can address complex problems and enhance performance in different areas, such as warehouse management, delivery logistics, public transportation systems, or intermodal transport.

As a first step, each seminar group will be assigned a topic from the abovementioned fields. Provided with a basic optimization model, the task is to enhance the model in a way that it can be applied to even more complex problem settings. Each group is then asked to implement and solve the model with optimal and/or heuristic solution procedures. The developed model, the solution procedures, and the results will be presented in a seminar presentation as well as a seminar paper.

Attention: Basic knowledge in Operations Research is required! It is recommended that only students who have successfully completed a basic module Operations Research and/or the master module Warehousing & Delivery Logistics apply for the seminar. For students without basic knowledge in Operations Research, some fundamentals in mathematical modeling will be provided via a video tutorial.

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Supervision: Prof. Dr. Felix Weidinger and the team of the chair

Grading: 50/50 based on presentation (20 Min) and seminar paper (approx. 20-25 pages); if you are between two grades, the effort during the discussion will impact the final mark.

Modus:

- Groups of 4 students each.
- Seminar presentation will be held in front of all participants. Pros and Cons of the presented work will be discussed (so-called friendly review).
- Seminar paper must be submitted by the end of the semester. Input from the presentation must be addressed and discussed.

Language: English (for both, the presentation as well as the paper)

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Timeline:

- October 23, 2024: Kick-off presentation by the chair (presumably 4.15 to 5.55 pm)
introduction to topic and formalities, forming of groups
- CW 43 2024 – CW 6 2025:
work on your seminar topic in groups, regular meetings with your supervisor
- February 5 and 6, 2025: Seminar presentations
block seminar
- March 31, 2025: Deadline for seminar paper submission

Contact: Constantin Wildt, constantin.wildt@tu-darmstadt.de