Kurs: Optimization in Logistics

Dozent(in)	Prof. Dr. Maren Martens
Teilnahme-voraussetzungen	**Formal:** None
	Inhaltlich: Enjoy mathematical games
Prüfungsleistung	Presentation and participation in class
Prüfungsvorleistung	Regular attendance in class
Bewertung der Prüfungs-leistung	Endnotenbildend
Bestehenserheblich	yes
Qualifikationsziele / Lernergebnisse	Students can identify and classify optimization problems in networks arising in logistics and production (or likewise in other sectors such as energy or telecommunication). They are proficient in modelling techniques and they can solve optimization problems algorithmically.
Inhalte	• Structural design of networks, e.g., optimal connection of warehouses to factories or of retailers to warehouses • Shortest paths • Transport, e.g., cost minimal routing of goods in networks • Assignment problems, e.g., for optimal storage locations in warehouses • Optimal packing, e.g., of cartons or trucks • Machine scheduling
Medien	Beamer mit Laptop, whiteboard, visualizer
Literatur	Slides Ahuja, R., Magnanti, T., Orlin, J. (1993): Network Flows. Theory, Algorithms, and Applications. Upper Saddle River, New Jersey 07458: Prentice Hall. Büsing, C. (2010): Graphen- und Netzwerkoptimierung. Heidelberg: Spektrum Akademischer Verlag.