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Lecture

# **Syllabus**

# Responsible: Professor Richard Pibernik, Chair of Logistics and Quantitative Methods Program: Type: Term: ECTS:

### Contents & Objectives:

Master

Large-scale enterprises as well as medium-sized firms have increasingly globalized their value creation activities over the past few years. They operate in global markets — with regard to procurement and production as well as in relation to their customers, who are supplied by global distribution systems. Therefore companies need to optimally design and coordinate their globally distributed value creation activities (particularly production and logistics). This lecture provides insight in important planning techniques, which support firms in solving these challenges. The focus lies in understanding and applying modern analytical approaches, which are utilized in business practice by industrial, commercial, and logistics companies and which are oftentimes applied by modern planning software.

Winter

The following topics will be addressed: Strategic Network Design, Distribution Network Design, Coordination Under Uncertainty, and Transportation Network Design and Planning, among others. The analytical approaches will be illustrated using practical planning problems and enhanced with case studies, simulations, etc. In addition, specific challenges, faced by management in applying these techniques, will be discussed.

### **Prerequisites:**

The course is designed for students in the Master's program with a basic knowledge of production and logistics and working knowledge in quantitative methods. International exchange students from Bachelor programs may attend this course if they have good quantitative skills and some background in production and logistics.

### **Course Structure:**

Week	Content
1	I Introduction to Logistics & SCM
2	II Logistics & Supply Chain Strategy
3	III Strategic Network Design
	III.a Basic Models
4	III.b Distribution network design
5	III.c Global production network design
6	III.d Design of global multi-stage networks
7	III.f Dynamic network design under uncertainty
8	IV Logistics & Supply Chain Planning in Networks
	IV.a Inventory management in networks
9	IV.b Transportation management in networks
10	V The Role of Logistics Service Providers in Global Supply Chains
11	VI Special Topics
	VI.a Coordination & Collaboration
	VI.b Design to Logistics/Supply Chain
12	Wrap-up, Q&A

### Literature:

- [1] Chopra, Sunil & Meindl, Peter. (2010): Supply Chain Management Strategy, Planning and Operation, Boston 2010; Chapters 1-8.
- [2] Various other readings that will be made available on WueCampus.
- [3] Various case studies (Seven-Eleven Japan, Aldi, Amazon, Applichem, Cashlog, Lucent)

## Grading:

60-minute final written exam + optional bonus assignment

### Contact:

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