Syllabus

Name:

Advanced Operations & Logistics Management

Responsible:

Professor Richard Pibernik, Chair of Logistics and Quantitative Methods

Program:	**Type:**	**Term:**	**ECTS:**
Master	Lecture	Summer	6 CP

Contents & Objectives:

This lecture equips students with important, relevant practical methods and tools in Operations/Logistics Management. The understanding and application of modern analytical approaches used by manufacturing and service companies is the core of this lecture. Particular concentration is placed on matching supply with demand in a volatile environment.

Among others, the following topics are discussed: Forecasting, Inventory & Capacity Management under uncertainty, Revenue Management, Integrated Sales & Operations Planning. The analytical approaches are illustrated based on planning problems in practice and their understanding is deepened with case studies, simulations, etc. Moreover, specific management problems in applying these approaches are examined.

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 and statistics. 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 Matching Supply with Demand – understanding the challenges
2	II Forecasting - fundamentals - Time series models for stationary demand
3	II Forecasting (cont.) - Models with trend, seasonality - Extensions - Case
4	III Consensus Forecasting & Integrated Sales and Operations Planning (S&OP)
5	IV Inventory Management under uncertainty - Introduction - Newsvendor Model
6	IV Inventory Management under uncertainty (cont) - Performance Measures - Multi-Period models (QR-, sS-Policies) - Cases
7	V Capacity Management under uncertainty - Fundamentals - Introduction to Queuing Theory
8	V Capacity Management under uncertainty (cont) - Queuing Theory continued

	- Case/Simulation Benihana
9	VI Order Fulfillment
10	VII Revenue Management
11	VIII Further Concepts
12	Wrap-up, Q&A

Literature:

[1] A package of reading materials (consisting of chapters from different Textbooks like Cachon/Terwiesch, van Mieghem, Nahmias, etc., and practice-oriented articles) will be made available on WueCampus for every chapter

[2] Various case studies (Wilkins, Leitax, L.L. Bean, Paper and More, Benihana, and others)

Grading:

60-minute final written exam + optional bonus assignment

Contact:

Dr. Richard Pibernik, Professor (richard.pibernik@uni-wuerzburg.de)

Dr. Alexander Rothkopf (alexander.rothkopf@uni-wuerzburg.de)