

Syllabus

Name:			
Supply Chain Management			
Responsible:			
Professor Richard Pibernik, Chair of Logistics and Quantitative Methods			
Program:	Type:	Term:	ECTS:
Bachelor	Lecture	Summer	5
Contents & Objectives:			
<p>From a company perspective, Supply Chain Management is responsible for matching supply (internal supply like capacity and inventory as well as external supply from suppliers) with customer demand. This specifically includes medium term and short term tasks like demand planning, master planning, production planning and scheduling, and distribution planning. Nowadays these tasks are supported by rather sophisticated quantitative models and techniques that are implemented in so-called “Advanced Planning Systems” (APS). One very successful APS is SAP’s “Advanced Planner and Optimizer” (APO); other companies like Oracle and JDA also provide APS with similar functionality.</p> <p>Most companies with state-of-the-art supply chain management employ APS. This is, however, very challenging – especially because the planning tasks are very complex and because the underlying models are rather complicated and not always well understood by users.</p> <p>The objective of this course is to help overcome these problems. Students will learn – based on a realistic case study – the planning logic and models for the aforementioned planning tasks (demand planning, master planning, etc.), and how they are implemented in SAP APO. Moreover, students will get to know how the different tasks are interrelated, which information is exchanged and how the different software modules of an APS interact. This will foster a holistic perspective on supply chain planning and how it is carried out with state-of-the-art software.</p> <p>The course is based on the book “Advanced Planning in Supply Chains - Illustrating the Concepts Using an SAP® APO Case Study” by Stadtler et al. (2012), which is available online through the university network (details on WueCampus). The book is accompanied by a learning software that illustrates how supply chain planning works with SAP APO. It guides students through supply chain management with SAP APO for a sample company called “Frutado”.</p> <p>The course is designed in multiple two-week learning units. In each unit we will first cover the fundamental concepts and models of a specific planning task (demand planning, master planning, etc.), and we will then observe how these concepts and methods are implemented in SAP APO. The latter involves a good amount of self-study activities of the students and will be supported by the learning software.</p>			
Prerequisites:			
The course is designed for Bachelor students with a basic knowledge of production and logistics and working knowledge in quantitative methods.			

Course Structure:	
Week	Content
1	Introduction to SCM and Frutado
2	Review Questions Advanced Planning with SAP APO
3	Demand Planning – Concepts and Models
4	Review Questions Demand Planning @ Frutado
5	Review Questions Master Planning – Concepts and Models
6	Review Questions Master Planning @ Frutado
7	Production Planning and Scheduling – Concepts and Models
8	Review Questions Production Planning and Scheduling @ Frutado
9	Global Available to Promise – Concepts and Models
10	Review Questions Global Available to Promise @ Frutado
11	Deployment – Concepts and Models
12	Review Questions Deployment @ Frutado
Literature:	
[1] Stadtler, Hartmut, et al. (2012): Advanced planning in supply chains. Illustrating the concepts using an SAP® APO case study. Heidelberg, New York: Springer-Verlag.	
Grading:	
60-minute final written exam	
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