Name:

Logistics & Supply Chain Management – Spreadsheet Modelling

Responsible:

Professor Richard Pibernik, Chair of Logistics and Quantitative Methods

Program:	**Type:**	**Term:**	**ECTS:**
Bachelor	Seminar	Summer	6 CP

Time and Venue:

Will be announced on SB@home and on

http://www.wiwi.uni-wuerzburg.de/lehrstuhl/bwl11/teaching/bachelor/seminar_logistics_supply_chain_management/

Contents & Objectives:

In many complex business situations, good decision making require some form of quantitative analysis. Oftentimes it is important (and sufficient) to be able to quickly develop and employ rather simple models to gain helpful insights and decision support. A widely available and commonly used tool for developing and employing such models is spreadsheet software, such as Microsoft™ Excel®.

In this seminar students learn to (1) structure relevant decision problems, (2) build a mathematical model, (3) implement it with the help of Microsoft™ Excel® and (4) interpret the results. In the kick-off session, we will introduce to the general structure of the seminar, the grading scheme and expectations on the seminar report. In the following self-study period, students will be provided with all relevant material to acquire the necessary Microsoft™ Excel® skills that are required for working on subsequent tasks. Students must prove their skills in a small online assignment, which has to be passed in order to further participate in the seminar. The assignment will count 20% of the final grade.

In the Intermediate workshop we introduce basic modeling techniques and the Microsoft™ Excel® Solver plugin as a tool to solve optimization problems. We conclude the workshop with an introduction to Supply Chain Management related case studies, on which students will work in groups. Each group will present their solution and discuss their results at the final workshop.

Prerequisites:

The course is designed for Bachelor students with a basic knowledge of production and logistics and working knowledge in quantitative methods. Students are required to have access to a running installation of Microsoft™ Excel® (Version 2007 or above for Windows, Version 2011 for mac).

The seminar is suitable for both Excel beginners and advanced users.

Course structure:

Session	**Content**
1	*Kick-off Workshop:* General introduction to the seminar, schedule, grading and report writing.
2	*Intermediate workshop*: Introduction to the model building process, data aggregation with Excel, linear optimization with Excel Solver, interpretation of results and assignment of cases.
3	*Final Workshop*: presentation of the implementation and results, active participation in discussion of all topics

Literature:

Ekşioğlu, Sandra D., Michelle M. Şeref, Ravindra K. Ahuja, and Wayne L. Winston (2011): *Developing spreadsheet-based decision support systems: Using Excel and VBA for Excel*. 2. ed. Belmont, Mass.: Dynamic Ideas.

Chopra, Sunil; Meindl, Peter (2010): *Supply chain management. Strategy, planning, and operation*. Global 4th ed. Boston: Prentice Hall.

Grading:
(1) **Online Assignment** (20% of final grade): We will grade the solution of the exercises in excel. (2) **Seminar paper** (40% of final grade): To pass the seminar, a seminar paper must be completed. The paper should introduce to the context of the decision problem and explain why a certain model was chosen. Also the main results of the implementation and their interpretation must be presented. (3) **Implementation** (20% of final grade): We will grade the Excel Implementation based on functionality and visualization of results and inputs. (4) **Presentation** (20% of final grade): Participants must present their work in a joint final workshop (block course). The group presentation of each topic should take 15 minutes in length and serve to explain the relevant problem, possible and selected solution approaches, as well as the implementation and its results. It should also include an interpretation of the results. Following the presentation, 10-15 minutes of time will be spent on discussion. **Note**: It is mandatory to participate in the chairs' scientific writing seminar (separate application via Maya Michels (maya.michels@uni-wuerzburg.de) required)
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