

General Information for the Master Seminar (summer term 2018)

Analysis of Manufacturing Systems

Adressees:

The seminar is aimed at students of the master programs Business Economics (with specialization in Logistics & Operations Management) and Operations Research and Business Analytics (with specialization in Supply Chain Management). It is assumed that the students have prior knowledge of methodology and content in the field of operations management and have informed themselves about the requirements of the chair.

Requirements:

Each participant has to independently write a report (10 – 15 pages) and hand it in timely (see dates). It must be clear from the work that the problem has been fully grasped, that modelling can be understood and that its limits have been recognized. Likewise, the solution approaches and the most important results are to be discussed. The specified articles must be intensively studied. In addition, other papers suitable for the topic shall be considered. In a lecture, the participant should demonstrate that he or she can also convey the topic to others and can ask critical questions. Likewise, an active participation in the discussions is expected. Each participant is discussant for another topic. There is compulsory attendance at the presentations.

Preliminary dates:

Date	Event	Notes
24.01.2018	Deadline for application	motivation letter (maximum of 400 words) which study program and which semester which courses already followed by email bwl-pl@ovgu.de
until 31.01.2018	Notification of selected participants	
13.02.2018	Allocation of topics	G22A-110, 15:00 s.t.
until 20.02.2018	Binding examination registration	list available from topic allocation until 20.02.2018 11:00 (secretary of the chair)
until 16.03.2018	Handover of structure draft and research question	file format: pdf by email bwl-pl@ovgu.de
until 30.04.2018	Handover of extract	1 – 2 pages file format: pdf by email bwl-pl@ovgu.de
30.05.2018	Handover of written report	10 – 15 pages file format: pdf by email bwl-pl@ovgu.de
28.06.2018 and 29.06.2018	Presentations	15 minutes presentation 5 minutes discussion each participant discussant for another topic

Topics:

1. Combined make to order and make to stock and the influence on production leadtimes
2. The relation between lotsizes and leadtimes
3. Analysis of Kanban controlled manufacturing systems
4. Kanban-like system with defective outputs
5. Analysis of manufacturing systems controlled with CONWIP
6. The role of WIP in serial production lines
7. Approximating performance measures for serial production lines
8. Optimal buffer allocation to maximize throughput
9. Optimal buffer allocation to minimize work in process inventory
10. Analysis of an unreliable machines in transfer line
11. Analysis of a manufacturing system with condition based maintenance