MGT-602

Mathematical models in supply chain management

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Cursus	Sem.	Type
Advanced Manufacturing		Opt.
Management of technology		Opt.

Language of teaching	English
Credits	4
Session	
Exam	Written
Workload	120h
Hours	**28**
Courses	28
Number of positions	

Frequency

Every 2 years

Remark

Next time: Autumn 2027

Summary

Over the past decade, supply chain management has drawn enormous attention by industry and academia alike. Given an increasingly global economy, pronounced trends towards outsourcing and advances in information technology, more and more complex business relationships among companies have evolve

Content

When taken together with market pressures such as rapidly changing product life cycles, proliferation of product variety, and co-existence multiple distribution channels, supply chain management today is rightfully seen as a new competitive imperative.

While industry is making tremendous progress in experimenting with new and innovative ways to manage their supply chains, we are beginning to see widespread interests to better inform supply chain choices by careful analysis of impeded tradeoffs. In this seminar, we will provide an overview of the state-of-the art in supply chain modeling and study select research papers on this topic. We will draw on the understanding and experience of industrial practices to illustrate key tradeoffs. The resulting mathematical models are used to foster managerial insights and prescribe optimal courses of actions.

This course covers recent research and advances in operations and supply chain management. The objective is to familiarize Ph.D. students with the latest research in these areas and to provide for an opportunity to common modeling assumptions. The course should be of particular interest for students who are currently pursuing doctoral studies at the junction of technology management and supply chain management, or related fields. In addition, it should appeal to students who are interested in the quantitative analysis of operations and supply chains.

Note

Assessment methods

Class Contribution one-third
Presentations one-third
Seminar Paper one-third

Assignments will consist of class presentation and a seminar paper. For each class, one student takes the lead and present one of the assigned papers in detail. All the other students should prepare a critique of the assigned papers, i.e., take notes while reading and preparing the paper to help advance our class discussions with critical questions. This class participation is intended to help you sharpen your conceptual and theory building skills and thus help you in turn become more systematic in your critical thinking and writing. At the end of the course, we ask you to summarize key learning. The assignments of students to sessions and papers will be done jointly in class. Working in pairs will also be feasible

and should be discussed up front.
The provided working papers copies are restricted in use for our course only.

Resources

Bibliography

The completed syllabus is available on the course website (username and password will be provided in class).