



KURSPLAN

Datadriven flödesplanering och -styrning, 5 högskolepoäng

Data-Driven Operations Planning and Control, 5 credits

Kurskod:	TFSR24	Utbildningsnivå:	Avancerad nivå
Fastställd av:	VD 2023-09-07	Utbildningsområde:	Tekniska området
Gäller fr.o.m.:	2024-01-01	Ämnesgrupp:	IE1
Version:	2	Fördjupning:	A1N
		Huvudområde:	Produktionssystem

Lärandemål

After a successful course, the student shall:

Kunskap och förståelse

- display knowledge about the fundamentals of operations planning and control
- display knowledge of the role of data-driven operations planning and control for capacity and materials management within an industrial context

Färdighet och förmåga

- demonstrate skills of problem identification, analysis and decision making within data-driven operations planning and control
- demonstrate the ability to apply different methods and tools relevant for data-driven operations planning and control

Värderingsförmåga och förhållningssätt

- demonstrate the ability to suggest different methods and tools relevant for data-driven operations planning and control
- demonstrate the ability to evaluate results from using data-driven operations planning and control

Innehåll

The course is primarily aimed at working professionals in the industry who wish to increase their knowledge of data-driven analysis methods in the context of operations planning and control of materials and capacity.

Data-driven decision making is about taking decisions based on actual data rather than on intuition or observations only. The ability to improve the correctness of one's own decision making is something that is important for industrial companies and their supply chain partners. The idea of using actual data for decision making is that businesses will be better at anticipating and act proactively on various events, and thus improve their competitiveness.

This course will address data-driven decision making by looking into different data-driven

analysis methods in the context of operations planning and control. The participants of the course will be provided with the theoretical foundations of planning and control, capacity management and materials management within the context of the industry. This theoretical knowledge is also converted into practice using practical data-driven planning and control projects to further aid the learning process. Connected to the projects, participants will also be given the possibility to work on company specific data-driven problems/challenges, such as data-driven forecasting.

Being a course on data-driven analysis and the development of decision support, the course is also laying the foundation for participants to use AI techniques in the future.

The course includes the following elements:

- Introduction and overview of:
 - o planning and control (e.g., allocation of work to resources, scheduling methods, monitoring and control of operations)
 - o Capacity management (e.g., qualitative and quantitative approaches to forecasting, capacity measurements, capacity dimensioning)
 - o Materials management (e.g., inventory types, order quantity decisions, re-ordering methods)
- Practical work in Microsoft Excel to generate forecasts based on historical data

Undervisningsformer

The course is given as an online course with a mix of digital resources, such as recorded lectures, quizzes, and online meetings. Course work in the form of projects is conducted throughout the course with online supervision, with the possibility of on campus supervision.

Undervisningen bedrivs på engelska.

Förkunskapskrav

Passed courses of at least 40 credits in the main field of study within Engineering and Technology, Natural Science or Social Sciences, and at least 1 years of work experience (or equivalent). English proficiency is required (level 6 or equivalent).

Applicants with an academic degree of at least 180 credits within Engineering and Technology, Natural Science or Social Sciences field are exempt from the work experience requirement. Applicants that have at least 4 years of work experience in the industry are exempt from the requirement of academic degree or courses of at least 40 credits within Engineering and Technology, Natural Science or Social Sciences field.

Examination och betyg

Kursen bedöms med betygen Underkänd eller Godkänd.

The final grade will only be issued after satisfactory completion of all mandatory examination elements.

Poängregistrering av examinationen för kursen sker enligt följande system:

Examinationsmoment	Omfattning	Betyg
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Projekt	5 hp	U/G
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Kurslitteratur

The literature list for the course will be provided eight weeks before the course starts.

Chapman, S., Arnold, T.K., Gatewood, A.K., and Clive, L.M. (2016). Introduction to materials management. 8th ed. Global edition, Pearson Harlow. ISBN: 9781292162355

(as an alternative, the book can also be bought as an eBook [ISBN: 9781292162379])

In addition, there are several articles included in the course.