

Analysing and Improving Manufacturing Operations

Programme course

6 credits

Analysing and Improving Manufacturing Operations

TPMM06

Valid from: 2017 Spring semester

Determined by

Board of Studies for Industrial
Engineering and Logistics

Date determined

2017-01-25

Main field of study

Industrial Engineering and Management

Course level

Second cycle

Advancement level

A1X

Course offered for

- Industrial Engineering and Management, Master's programme
- Mechanical Engineering, Master's programme

Entry requirements

Note: Admission requirements for non-programme students usually also include admission requirements for the programme and threshold requirements for progression within the programme, or corresponding.

Prerequisites

Admission to master level studies. Basic course in Production and Operations Management

Intended learning outcomes

After this course the student should be able to:

- understand the relationship between analysis and improvement of manufacturing operations and the value processes of the firm.
- use the most common analysis tools and approaches.
- use the most common improvement tools and approaches.
- use simulation for analysing and improving manufacturing operations.

Course content

Analysing Manufacturing Operations: Analyses of lead-time, capacity, material flow, customer and manufacturing orders, delivery service, inventories, information, and from a systems perspective.

Improving Manufacturing Operations: Value-based process enhancements through improvements in time, cost, flexibility and quality, with a special focus on setup-time reduction.

Simulation as Support for Analysing and Improving Operations: Relationships among lead-time, capacity, material flow, inventories, orders, delivery service, costs, information, and planning strategy.

Teaching and working methods

The lectures deal with the theoretical approaches and the seminars and laboratory sessions deal with a project.

Examination

UPG2	Seminar project	3 credits	U, G
TEN2	Written examination	3 credits	U, 3, 4, 5

Grades

Four-grade scale, LiU, U, 3, 4, 5

Department

Institutionen för ekonomisk och industriell utveckling

Director of Studies or equivalent

Fredrik Persson

Examiner

Helene Lidestam

Education components

Preliminary scheduled hours: 48 h

Recommended self-study hours: 112 h

Course literature

Anupindi, Chopra, Deshmukh, Van Mieghem and Zemel: Managing Business Process Flows, Prentice-Hall 2005.

Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at http://stydokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva.