

Production System Planning and Management

Programme course

6 credits

Produktionssystemets planering och ekonomi

TPPE91

Valid from: 2017 Spring semester

Determined by

Board of Studies for Mechanical
Engineering and Design

Date determined

2017-01-25

Main field of study

Industrial Engineering and Management

Course level

First cycle

Advancement level

G2X

Course offered for

- Mechanical Engineering, M Sc in Engineering

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

Basic knowledge in Industrial management, optimization, and statistics

Intended learning outcomes

After taking this course, the student should:

- have knowledge in the relation between a production system and a industry company other functions
- have knowledge about the most important business processes in a manufacturing company, and understand the internal and external supply chains
- have knowledge about the basics in production economics, economical issues for industrial production and the connection to business strategies
- be able to describe different production systems and their layout and be able to identify critical factors when designing a production system
- have knowledge about different ways of organising material handling and distribution
- be able to describe material- and production management, in both a long and a short horizon, and their methods, from sale and production planning, via main planning and material and resource planning down to detail planning
- have basic knowledge about lean production
- be able to describe and use the most common methods for inventory control
- be able do describe inportant factors regarding purchase/manufacturing decisions and decisions about outsourcing
- have knowledge about different way of measure flow- and resource efficiency and have understanding how they are related
- have a basic knowledge in the methology how to analyse and improve flows and processes

Course content

The basics in Production economics, important concepts and categorising of companies. Developing and construction of production systems for effective production based on essential business management. Different production systems, Sale- and production planning, main planning and resource material planning, detail planning, inventory control, business processes, economical key factors. Principles for distribution and lean production. Purchase and distribution in a manufacturing industry. Purchase/manaufacturing decisions and the basic knowledge about outsourcing.

Teaching and working methods

Lectures are mainly concerned with introduces theoretical issues and concepts, but also ties together various parts of the course. The lessons are concentrating on exercises connected to the most important course sections. A practical case runs through the course, where different approaches are presented and discussed at the seminars. A number of assignments in various parts of the case study are the basis for examination projectassignment.

Examination

PRA2	Project work	2 credits	U, G
TEN2	Written examination	4 credits	U, 3, 4, 5

Grades

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

Other information

Supplementary courses: Manufacturing Strategies. Production Logistics. Basics in Logistics Management, Quality Management and Engineering, which give the students possibility to follow master courses in manufacturing management, logistics management and quality management

Department

Institutionen för ekonomisk och industriell utveckling

Director of Studies or equivalent

Fredrik Persson

Examiner

Mathias Henningsson

Course website and other links

Education components

Preliminary scheduled hours: 48 h

Recommended self-study hours: 112 h

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.