

# Advanced Planning and Scheduling

Programme course

6 credits

Avancerad planeringsteknik

TPPE54

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

- Design and Product Development
- Industrial Engineering and Management - International, M Sc in Engineering
- Industrial Engineering and Management, M Sc in Engineering
- Mechanical Engineering, M Sc in Engineering
- Industrial Engineering and Management, Master's programme
- Mathematics, 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

Production Economics, Production Logistics, Operations Research

## Intended learning outcomes

The purpose of the course is to provide knowledge in advanced planning and scheduling for different types of manufacturing operations. After taking this course, the student should be able to formulate and manage complex planning and control problems at different hierarchical levels, and be knowledgeable about the design and application of systems for advanced planning and scheduling on the short as well as the long term in manufacturing and supply chains.

## Course content

Supply Chain planning: Modelling and systems.

Hierarchical Production Planning: Aggregation and disaggregation.

Hierarchically linked planning and control. Applications.

Integrated Planning and Scheduling: Advanced cyclic scheduling. Sequencing in complex systems.

Queueing Theory: Modelling and applications.

Advanced Inventory Control: Modelling and systems.

RemanufacturingR: Modelling and applications.

## Teaching and working methods

The lectures deal with the theoretical issues and the seminars deal with exercises.

## Examination

TEN1	Written examination	6 credits	U, 3, 4, 5
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## Grades

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

## Department

Institutionen för ekonomisk och industriell utveckling

## Director of Studies or equivalent

Fredrik Persson

## Examiner

Ou Tang

## Education components

Preliminary scheduled hours: 42 h

Recommended self-study hours: 118 h

## Course literature

Artiklar

## 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](http://stydokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva).