



MG2029 Production Engineering - Planning and Control 6.0 credits

Industriell produktion - planering och styrning

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

Course syllabus for MG2029 valid from Autumn 2019

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

Specific prerequisites

MG1016/MG1026 Manufacturing Technology and
MG1024 Production

or the equivalent

English B or the equivalent

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

After passing the course, you will be able to:

- explain fundamental principles used in traditional production planning and control systems
- develop aggregate plans for manufacturing of a multi-component product
- propose and motivate a Master Production Schedule and a Material Requirements Plan for a given aggregate plan
- apply proper inventory control methods for a product with known demand
- choose the best operations scheduling approach to optimize certain shop floor performance indicators
- describe the principles of push and pull control policies,
- explain and utilize appropriate lean tools to continuously improve shop floor performance
- apply value stream mapping for current and future states to a given case study.

Course contents

Production planning and control

- Forecasts and aggregate plans for production
- Master Production Schedule
- Material Requirements Planning (MRP systems)
- Detailed shopfloor scheduling
- The production game

Lean philosophy and tools

- Lean Philosophy, principles and processes
- Lean as a strategy, people and problem solving
- Lean journey, experiences and the 5S tool
- Lean lab exercise
- Value Stream Mapping (VSM)

Examination

- INL1 - Assignment and laborations, 3.0 credits, grading scale: P, F
- TEN1 - Written exam, 3.0 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

The Lean lab exercise can only be carried out in the Lean lab facilities of the department

The production game is a board game which requires presence and active participation

Other requirements for final grade

Active participation in Toyota seminar and attendance at guest lectures.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.