



# MG2004 Technology Edge Production Focus Manufacturing Technology 15.0 credits

Teknikfront produktion fokus tillverkning

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

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

## Establishment

Course syllabus for MG2004 valid from Autumn 2011

## Grading scale

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

## Education cycle

Second cycle

## Main field of study

Mechanical Engineering

## Specific prerequisites

Minimum 120 cr of university studies in Mechanical Engineering and Swedish B and English B or equivalent.

# Language of instruction

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

# Intended learning outcomes

After completing this module the student should be able to:

- understand the behaviour of manufacturing processes and how environmental and technological factors will affect them. The course will develop the student's knowledge about modern manufacturing processes and the strategies considerations that need to be applied when selecting a specific process
- Distinguish between different kind of process and planning methods and characterise them with respect to application and operation
- Understand and have gained knowledge about manufacturing planning and its relation to econometrics
- Which things a production engineer needs to consider in order to optimize a manufacturing process
- Which things a production engineer need to consider in order to optimize a manufacturing system
- Understand the impact of and distinguish between different organisational philosophies
- Practical experience of laboratory work
- Understand, use (read and Write) and verbal communicate the basic "Technical English" terms connected to the subjects int the module
- Plan and solve an industrial task and write a technical report

# Course contents

The Technology Edge Production course focusing on Manufacturing Technology describes different kinds of Manufacturing Processes, their characteristics, application, design and Operations. Managerial and organizational aspects including process and production planning, costing and performance are discussed and taught within this module. Process and Manufacturing Planning as well as Manufacturing Econometrics for machining process as well as manufacturing processes in general are taught including methods to achieve optimum production Times and Delivery Schedules. Cost Calculations and techniques for Profit Optimization are important learning tasks.

# Disposition

Manufacturing processes

Process and production planning

Manufacturing econometrics

Project work/Industrial case

## Examination

- INL1 - Assignment, 1.0 credits, grading scale: A, B, C, D, E, FX, F
- INL2 - Assignment, 4.0 credits, grading scale: A, B, C, D, E, FX, F
- PRO1 - Project Work, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- SEM1 - Seminar, 2.0 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Examination, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- ÖVN1 - Exercise, 2.0 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.

PRO1, projectwork 3hp.

TEN, exam 3hp.

INL1, Assignment 1hp.

SEM, Seminars 2hp.

ÖVN Exercise 2hp.

INL2, Technical report 4hp.

## Other requirements for final grade

All parts completed according to the examination,  
see examination.

## 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.