



MG1025 Product Realization - Manufacturing 6.0 credits

Produktframtagning - tillverkning

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

Establishment

Course syllabus for MG1025 valid from Autumn 2011

Grading scale

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

Education cycle

First cycle

Main field of study

Mechanical Engineering, Technology

Specific prerequisites

Compulsory for CMAST3

Language of instruction

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

Intended learning outcomes

On successful completion of this course you will be able to:

Describing the activities of a product development process and how they depend on each other

carry out have a technical product development projects in the group, from being formulated product requirements that have defined manufacturing switch between levels of abstraction, as a function, solution in principle and detailed solution for product development

explain the frequent cutting and forming processes used in the engineering industry, and apply these processes to produce simple components

select the manufacturing process from a series of component size, shape, and mechanical properties precision

prepare simple metallic components for the manufacture of manual / numerically controlled machine tools (lathe, mill), incl. choice of tools

using basic engineering technical measurements, to verify the function and quality

describe product development process (raw material - construction - manufacturing - product)

perform a simple dimensioned manufacturing drawings

The course information is a detailed description (give specific learning objectives for each lesson) of what a course participant should be able to after the course

Course contents

A detailed form, precision manufacturing, and mechanical properties are determined largely by the selected manufacturing process. In the course you will study the most common cutting, shaping and manufacturing processes used in the engineering industry. Examples include turning, milling, drilling, casting, and plastic forming.

Other areas covered in the course are basic engineering technical measurement techniques to verify the functionality and quality.

Teaching is integrated in the form of lectures, tutorials and laboratory. To help you get to practice the skills you acquire in your course includes hands-on laboratory work in mechanical engineering.

Disposition

Semester 1

Lectures 13 h

Exercises 26 h

Lab 3 h

Course literature

Kompedium "Produktframtagning-tillverkning"

"Formler och tabeller för mekanisk konstruktion" Karl Björk

Dessutom tillkommer extra kurslitteratur i form av laborationshäften, föreläsningsanteckningar och övningsuppgifter. Dessa läggs ut på Bilda under kursens gång.

Examination

- PRO1 - Project Work, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- ÖVNB - Exercise, 3.0 credits, grading scale: P, 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.

ÖVN A: Laboratory and exercises and homework assignments, 3hp

PRO 1: Technical report with manufacturing documentation, 3hp

Other requirements for final grade

- Laboratory work including preparation
- Homework assignments
- Project tasks

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.