



MG1000 Mechanical Workshop Practice 3.0 credits

Praktisk verkstadsteknik

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 MG1000 valid from Autumn 2011

Grading scale

P, F

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Only Bachelor and Master level students admitted to a programme at KTH, and exchange students are eligible.

Language of instruction

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

Intended learning outcomes

Upon completion of the course requirements, the student should:

- thoroughly know and strictly adhere to the rules and safety regulations for work in the mechanical workshop
- be able to properly operate the manufacturing equipment in the mechanical workshop
- be able to create and document a simple process plan for manufacturing of a product in the mechanical workshop
- be able to read and use a manufacturing drawing as a definition for the manufacturing of a part
- be able to use gauging equipment to verify that a manufactured part fulfills the requirements specified on a manufacturing drawing
- know common materials and standard material dimensions used for blanks
- be able to select proper tools and cutting data for a given material and manufacturing process
- realize when his/her knowledge is insufficient and assistance should be requested

Course contents

Rules and safety regulations for work in the mechanical workshop

Introduction to the manufacturing equipment in the mechanical workshop

Simple process planning - choice of proper blank, operations plan, machine tool, fixturing and cutting tool

Operation of machine tools - safety and safety equipment, fixtures, cutting tools, tool holders and change of tools, coordinate systems, origin and axis orientations, setting machine zero, speeds and feed rates

Using rules of thumb and handbooks for selecting proper cutting data (speeds and feeds)

Manufacturing of a part of your own selection, documented in a proper manufacturing drawing, using a wide range of the manufacturing equipment available in the mechanical workshop

Tolerances and measurement of manufactured parts

Course literature

Karlebo handbook (can be borrowed; In Swedish);
Björk, Formler och tabeller för mekanisk konstruktion (Rules and tables for mechanical design; In Swedish); Course binder with excerpts from handbooks, rules and regulations for safety (Parts in Swedish)
Technical data sheets and handbooks from suppliers of machine tools, tools and materials.

Examination

- KON1 - Written Examination, 1.0 credits, grading scale: P, F
- LAB1 - Workshop Practice, 2.0 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.

Other requirements for final grade

KON1 - Written examination on order and safety regulations, and theoretical knowledge of manufacturing processes, 1 cr

LAB1 - Proven proficiency in workshop practice

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.