



HM1003 Engineering Materials and Production 2 7.5 credits

Material och produktion 2

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

Establishment

Course syllabus for HM1003 valid from Spring 2010

Grading scale

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

Education cycle

First cycle

Main field of study

Mechanical Engineering, Technology

Specific prerequisites

Knowledge and skills corresponding to the courses " Engineering and Information Skills" and "Engineering Material and Production 1".

Language of instruction

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

Intended learning outcomes

The main purpose of the course is that the student will have further knowledge of engineering materials and manufacturing methods (compared to Engineering Materials and Production 1) and have knowledge of equipment and planning in the manufacturing industries of today. Within the project work the student will get further training in working in accordance with professional technical methods and routines and solving of problems in interactive groups.

After the course the student will be able to:

- work with project planning(schedules, budget etc.) in accordance with professional technical methods and routines
- describe properties and field of application of various engineering materials and explain connections between those
- describe manufacturing methods and explain their prospects and limitations
- make conclusions about how and from which materials existing products are manufactured and explain the influence of environmental and economic aspects on those matters
- make propositions for improvements according to choices of materials and manufacturing methods of existing products

Course contents

- Cast iron, alloys based on Ti, Mg, Cu, etc., composite materials, powder metallurgical materials, ceramics. Corrosion.
- Unconventional machining methods i.e. EDM and IBM
- factory layout, types of machines and robots, CNC etc.
- the students will in form of project work analyze the product realization process of an imaginary or existing product. Design, manufacturing, economic and environmental aspects are to be taken into consideration.

Course literature

Jarfors: Tillverkningssteknologi, Studentlitteratur, ISBN 978-91-44-07039-1

Any changes will be announced one month before the course starts.

Examination

- PRO1 - Project Work, 4.5 credits, grading scale: P, F
- TEN1 - Examination, 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.

Other requirements for final grade

Passed exam (TEN1; 4,5 cr.) Grading scale A-F

Passed lab works and exercises (PRO1;1.5 cr.) Grading scale P/F

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.