



MF1047 Design and Product Development for Technology Teachers, part 1 7.0 credits

Design och produktframtagning, del 1

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

Establishment

Course syllabus for MF1047 valid from Spring 2014

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Language of instruction

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

Intended learning outcomes

After completing the course the student will:

- have knowledge of design and product development process and methodology, and the engineer's role in this
- know the historical background of industrial design and the importance of industrial design in product development
- be able to use some of the engineer's computer tools, especially:
 - CAD program to make models in two and three dimensions for communication and manufacturing scheduling

Word processor to write reports:

- be able to visualize product concepts through simple sketches and models
- identify and explain a range of functional support (technical principles which fulfills a function)
- compare and evaluate different solutions to technical problems
- be able to plan and carry out oral presentations.

Course contents

The main part of the course consists of a project which aims to construct a new product or improve an existing one. Aspects of form, function and manufacturing must be considered. Proposals shall then be illustrated with physical and virtual models (e.g. cardboard and 3DCAD).

The project will start with a kick-off and training in project work, information retrieval, group dynamics and creativity.

The project is supported through tutoring also through lectures, tutorials and practicals. The purpose of these teacher-led operations is also to provide a larger context and perspective on design and product development. In the teacher-led operations introduced CAD, design, product development (design and production), and oral and written communication.

Course literature

Folkesson, A. (2003), Kommunikation för ingenjörer. Maskinkonstruktion, KTH, 2003

Li Wikström, Produktens budskap, Metoder för utvärdering av produkters semantiska funktioner ur ett

användarperspektiv, Chalmers, Göteborg 2002 ISBN 91 7291 1565

Wiebe E. Bijker, Of Bicycles, Bakelites, and Bulbs – Toward a Theory of Sociotechnical Change, The

MIT Press, Cambridge, Mass, USA 4:e tryckn 2002 ISBN 9 780262 522274

Kursmaterial som omfattar bland annat CAD, arbetsmetodik, skissteknik och modellmaterial.

Examination

- INL1 - Hand in exercise, 1.5 credits, grading scale: P, F
- PRO1 - Project Work, 4.0 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Laboratory Sessions, 1.5 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.

Other requirements for final grade

Assessment is ongoing, with oral and written presentations of projects and assignments and compulsory attendance for some moments.

LAB1, 1.5 credits - Laboratory, grades P, F.

INL1, 1.5 credits - Assignments, grades P, F.

PRO1, 4 credits - Project, grades A, B, C, D, E, FX, 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.