



MF2092 Rapid Prototyping 3.0 credits

Prototypframtagning

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 MF2092 valid from Spring 2017

Grading scale

P, F

Education cycle

Second cycle

Main field of study

Mechanical Engineering

Specific prerequisites

Bachelor degree in mechanical engineering, or the equivalent. Basic CAD knowledge.

Language of instruction

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

Intended learning outcomes

After passing the course, the students should be able to:

- create virtual 2D/3D models adapted for prototyping machines
- create physical 2D/3D models by means of laser cutting, 3D printing, prototype milling, vacuum forming and water jetting
- explain differences and relations between virtual and physical prototypes
- explain different prototype manufacturing methods and choices of method based on form, function, cost, time and quality
- explain differences and relations between different digital 2D/3D format

Course contents

The course focuses on providing a theoretical and practical knowledge in prototype manufacturing. Operation of prototype manufacturing tools such as 3D printers, laser cutters, prototype milling machines, vacuum forming machines and water jetting machines is a central part and is dealt with in laboratory sessions. As the machines work with digital geometry, basic CAD knowledge is required. A project carried out in groups of four is included in the course.

Course literature

Will be announced at the beginning of the course.

Examination

- LAB1 - Laboration, 1.0 credits, grading scale: P, F
- PRO1 - Project, 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

The examination of the course consists of two components, laboratory sessions and projects. Four laboratory sessions give 1 credit and the project gives 2 credits. To pass the course, these two components need to be approved. Before each laboratory session, a preparatory assignment is required. A short report and presentation is required to pass the project component.

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.