MG2022 Advanced CAD Modelling and Rapid Prototyping, Project Course 6.0 credits

Avancerad CAD- och FFF-modellering, projektkurs

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

Establishment

Course syllabus for MG2022 valid from Autumn 2019

Grading scale

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

Education cycle

Second cycle

Main field of study

Mechanical Engineering

Specific prerequisites

MF1061 Design and Product Realization, Introduction
or
MJ1103 Introduction to Mechanical Engineering
or
MF1001 Mechanical Engineering, introductory course
or
MG1028 Introductory CAD

or the equivalent

Swedish B and English A or equivalent

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 student should be able to:

- use the full functionality of a modern CAD system to create high quality CAD models of parts with complex shapes, using a structured work method
- interpret 2D drawings and use them as a reference for creating 3D CAD models
- reflect upon and describe the development of his/her CAD skills during the course
- adapt and prepare CAD models for additive manufacturing

Course contents

Advanced CAD usage:

- Advanced solid modelling operations
- Modelling of parts with complex shapes and freeform surfaces
- Diverse and unconventional metodologies for CAD work
- Modelling operations for sheet metal parts

Manufacturing adaptation and preparation for manufacturing in Rapid Prototyping equipment

Disposition

Classes 1-2 times per week with activities such as:

- Laboratory exercises in usage of advanced CAD system functions
- Individual work on several parts with complex shapes and structures, based on 2D manufacturing drawings

The student has to document his/her individual work in a technical report describing modelling approaches and commands used, lessons learnt from each model and reflections over modelling issues and the learning process

Extensive (home)work required, besides classes

Course literature

Can be downloaded from Canvas by registered course participants

Examination

- INL1 - Homework Assignment, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Laboratory Exercises, 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.

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.