



# MG2022 Advanced CAD Modeling 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.

If the course is discontinued, students may request to be examined during the following two academic years

## Establishment

Course syllabus for MG2022 valid from Autumn 2015

## 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  
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 will be able to:

- use a structured approach, to utilise the full range of functions available in a modern CAD system to create robust CAD models of parts and products with complex shapes and structures
- adapt and prepare CAD models to make them suitable for manufacturing in a Additive Manufacturing machine

## Course contents

Advanced CAD usage:

- Advanced solid modelling operations
- Modelling of parts with complex shapes and freeform surfaces
- Diverse and unconventional methodologies 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

Görs tillgängligt i Bilda för registrerade kursdeltagare

## 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.

## Other requirements for final grade

Approved laboratory exercises (LAB1; 3 hp)

Approved homework assignment (INL1; 3 credits)

## 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.