



## KURSPLAN

# Avancerad CAD, 7,5 högskolepoäng

*Advanced CAD, 7.5 credits*

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<b>Kurskod:</b>	TACR21	<b>Utbildningsnivå:</b>	Avancerad nivå
<b>Fastställd av:</b>	VD 2021-03-01	<b>Utbildningsområde:</b>	Tekniska området
<b>Reviderad av:</b>	Utbildningschef 2023-10-25	<b>Ämnesgrupp:</b>	MT1
<b>Gäller fr.o.m.:</b>	2024-08-01	<b>Fördjupning:</b>	A1N
<b>Version:</b>	4	<b>Huvudområde:</b>	Produktutveckling

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### Lärandemål

After a successful course, the student shall:

Kunskap och förståelse

- display elaborated knowledge on the theoretical background on CAD-systems
- display knowledge on advanced geometric tolerancing and material conditions

Färdighet och förmåga

- demonstrate ability to use advanced functions in CAD for surface and solid modelling
- demonstrate ability to use functions such as boolean operations to form moulds and dies
- demonstrate ability to create purposeful CAD-models to support product realization

Värderingsförmåga och förhållningssätt

- demonstrate ability to judge what is required from a production specification to be used in industrial practice

### Innehåll

The course teaches elaborate handling of CAD-system for the creation of production specifications on an advanced level. Products specifications include injection molding or other production methods. The specifications encompass all aspects of production such as tapers and parting lines. The parts should be specified in engineering drawings complying with applicable industrial standards. In the course, the prediction of which parameters that are governing for a design will be identified. Thus, a purposeful structure of parameters may be created in the CAD-models maximizing their value in the product realization process.

The course includes the following elements:

- Advanced CAD functions such as variable sweeps.
- Surface modelling in CAD
- Theoretical background to the CAD-systems
- Identification of governing parameters in designs
- Structure of parameters in CAD-models
- Creation of moulds and dies

## Undervisningsformer

The course is taught through lectures and laboratory lessons (computer labs) and assignments.

Undervisningen bedrivs på engelska.

## Förkunskapskrav

The applicant must hold the minimum of a bachelor's degree (i.e the equivalent of 180 ECTS credits at an accredited university) with at least 90 credits in mechanical engineering, civil engineering (with relevant courses in construction), or equivalent. The bachelor's degree should comprise a minimum of 15 credits in mathematics and 7.5 credits in CAD, or equivalent. Proof of English proficiency is required.

## Examination och betyg

Kursen bedöms med betygen 5, 4, 3 eller Underkänd.

Poängregistrering av examinationen för kursen sker enligt följande system:

Examinationsmoment	Omfattning	Betyg
Projekt <sup>1</sup>	4 hp	5/4/3/U
Inlämningsuppgifter	3,5 hp	U/G

<sup>1</sup> Bestämmer kursens slutbetyg vilket utfärdas först när samtliga moment godkänts.

## Kurslitteratur

The literature list for the course will be provided one month before the course starts.

Digital compendium distributed at the course start