



## COURSE SYLLABUS **Advanced CAD, 6 credits**

*Avancerad CAD, 6 högskolepoäng*

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<b>Course Code:</b> TACR26	<b>Education Cycle:</b> Second-cycle level
<b>Confirmed by:</b> Dean Mar 1, 2016	<b>Disciplinary domain:</b> Technology (95%) and social sciences (5%)
<b>Valid From:</b> Aug 1, 2016	<b>Subject group:</b> MT1
<b>Version:</b> 1	<b>Specialised in:</b> A1N
<b>Reg number:</b> JTH 602/313	<b>Main field of study:</b> Product Development

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### **Intended Learning Outcomes (ILO)**

On completion of the course, the student should

Knowledge and understanding

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

Skills and abilities

- show ability to use advanced functions in CAD for surface and solid modelling
- show skills in creating advanced engineering drawings in CAD
- show ability to create purposeful CAD-models to support product realization

Judgement and approach

- show ability to judge what is required from a production specification to be used in industrial practice (to some extent).

### **Contents**

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 covers the following topics:

- Advanced CAD functions such as variable sweeps.
- Surface modelling in CAD
- Theoretical background to the CAD-systems
- Advanced engineering drawings
- Identification of governing parameters in designs

- Structure of parameters in CAD-models

### **Type of instruction**

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

The teaching is conducted in English.

### **Prerequisites**

The applicant must hold the minimum of a bachelor's degree (ie. the equivalent of 180 ECTS credits at an accredited university) with at least 90 credits within the major subject Mechanical Engineering, and 21 credits Mathematics, and completed course Computer Supported Engineering Design, 6 credits or equivalent. Proof of English proficiency is required.

### **Examination and grades**

The course is graded 5,4,3 or Fail.

Registration of examination:

<b>Name of the Test</b>	<b>Value</b>	<b>Grading</b>
Examination <sup>1</sup>	3.5 credits	5/4/3/U
Assignments	2.5 credits	U/G

<sup>1</sup> Determines the final grade of the course, which is issued only when all course units have been passed.

### **Course literature**

Literature

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

Digital Compendium