



**LUNDS UNIVERSITET**  
Lunds Tekniska Högskola

*Course syllabus*

## **CAD evolution**

### **CAD Evolution**

#### **IDEN45, 5 credits, A (Second Cycle)**

**Valid for:** 2023/24

**Faculty:** Faculty of Engineering, LTH

**Decided by:** PLED ID

**Date of Decision:** 2023-03-16

#### **General Information**

**Main field:** Industrial Design.

**Compulsory for:** MID1

**Language of instruction:** The course will be given in English

#### **Aim**

3D modelling and rendering is an essential part of many contemporary industrial design processes. Upon completion of the course, students shall have revisited and updated their 3D skills and be confident to independently translate their design intent, using software, into 3D forms for design development and presentation purposes.

#### **Learning outcomes**

*Knowledge and understanding*

For a passing grade the student must

Revisit the fundamentals of 3D surface modelling and rendering through learning and practicing typical 3D surface modelling and rendering workflows.

- Mastering software user interfaces, i.e. menus, windows and hotkeys, etc.
- The 3D workspace; history and the principles of NURBS geometry, i.e. points, curves and surfaces
- Capturing the design intent by constructing and manipulating 3D points, lines and curves through points in 3D workspace as prerequisite for simple quality surfaces
- Constructing and modifying surfaces to accurately describe objects through re-modelling a simple and a complex object
- Rendering finished objects in a photorealistic manner through texturing and lighting;

i.e. mapping of image files and use of high dynamic range images  
- Outputting basic data for use in other software and rapid prototyping equipment

## Contents

The course consists of group lectures, complemented by individual supervision.

## Examination details

**Grading scale:** UG - (U,G) - (Fail, Pass)

**Assessment:** 80 % attendance required. The assessment is based on the documentation of the individual assignments.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

## Admission

**The number of participants is limited to:** No

**The course overlaps following course/s:** IDEN20

## Reading list

- Software manuals, on- and offline help functions, 3rd party websites, online user-forums and discussion groups.

## Contact and other information

**Course coordinator:** Andreas Hopf, [andreas.hopf@design.lth.se](mailto:andreas.hopf@design.lth.se)

**Course homepage:** <http://www.ide.lth.se>

**Further information:** The course includes group discussions and reviews. Individual work is done under supervision.