AF175V Integrated CAD for Construction 1 7.5 credits

Integrerad CAD Bygg 1

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

Establishment

Grading scale

P, F

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Completed upper secondary education including documented proficiency in Swedish corresponding to Swedish B and English corresponding to English A. For students who recieved/will recieve their final school grades after 31 December 2009, there is an additional entry requirement for mathematics as follows: documented proficiency in mathematics corresponding to Mathematics A.

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

Upon successful completion of the course, students are expected to be able to:

- explain which drawing formats and types can be used in a model-oriented CAD project
- be aware of reference lines, grid lines, coordinate systems, and measurement units
- explain the various standard line widths in a drawing how they correspond to colours when plotted
- describe drawing size and scale, as well as the connection between objects in their natural size, in model drawings and on paper in CAD programmes
- handle layers and be aware of standard layer systems
- write text in building standard size and adjust it for different drawing environments
- draw and edit objects in CAD modelling environments and handle it in a paper environment
- create and use blocks and symbols in a CAD programme
- manage plotted printouts of model environments and layout environments, made-to-scale plots and plots with correct line widths while using plotting table files
- use external references (links) between drawings and know how to use these in the planning phase
- handle application programmes when setting up a construction project and 3D modelling

Course contents

- Basic theory on building standards and drawing techniques, system lines and coordinate systems for staking points and explanations about various types of drawings: plan, elevation, sectional, detail and site plans
- Basic information on drawing types and planning work in the building industry
- User interfaces and drawing environments in CAD programmes
- Coordinate systems, lines, line types and managing scaling line types in CAD
- Drawing and editing commands
- Layers and plotting
- Text and dimensions
- Hatching on two-dimensional surfaces
- Blocks in construction drawings
- Documentation and managing layout as well as regulations on plotting and printing
- External references in practice
- Creating projects in application programmes for construction

Course literature

Kompendium i CAD: "Grunder och Projektering"

Examination

- PRO1 - Project, 5.0 credits, grading scale: P, F
- TEN1 - Examination, 2.5 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.

PRO1 Project 5.0 credits, grade scale P/F
TEN1 Examination 2.5 credits, grade scale P/F

Other requirements for final grade

PRO1 Project 5.0 credits, grade scale P/F
TEN1 Examination 2.5 credits, grade scale P/F

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.