



DH2323 Computer Graphics and Interaction 6.0

credits

Datorgrafik med interaktion

Course syllabus for DH2323 valid from Spring 09

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

Grading scale: A, B, C, D, E, FX, F

Education cycle: Second cycle

Main field of study: Computer Science and Engineering, Information Technology, Information and Communication Technology

Intended learning outcomes

The students should after the course be able to

- briefly explain fundamental terms within computer graphics
- explain fundamental concepts within computer graphics such as geometrical transformations, illumination models, removal of hidden surfaces and rendering
- explain the ideas in some fundamental algorithms for computer graphics and to some extent be able to compare and evaluate them
- use a basic parts of a modelling software such as Maya in order to build simple 3D objects
- use a software/API such as OpenGL to build simple 3D objects

Course main content

Graphical systems and models. Graphical primitives. Use of a graphics API (application programmer interface). Input and interaction. Geometric objects and transformations.

Projections and viewing. Shading (local and global models). Color. Operations on buffers and pixels. Rendering: clipping, hidden surface removal, scan conversion. Hierarchical and object oriented models and animation. Curves and surfaces. Procedural methods. Realism. Human perception.

For the lab work a modern graphics package (OpenGL, which means that some programming is needed) and a modern 3D graphics editor are used.

Language of instruction

Language of instruction is specified in the course offering information in the course and programme directory.

Eligibility

Literature

To be announced at the web page for the course at least 2 weeks before the course starts. Previous year E. Angel: Interactive Computer Graphics, Addison-Wesley, 2000 and material produced at the department was used.

Examination

- LAB1 - Laboratory Work, 3.0 credits, grading scale: P, F
- TEN1 - Examination, 3.0 credits, grading scale: A, B, C, D, E, FX, F

In this course all the regulations of the code of honor at the School of Computer science and Communication apply, see: http://www.kth.se/csc/student/hederskodex/1.17237?l=en_UK.

Requirements for final grade

Examination (TEN1; 3 university credits).

Laboratory assignments (LAB1; 3 university credits).