



Course syllabus

Faculty of Technology
Department of Computer Science

2DV803 3D-grafik, 7,5 högskolepoäng
3D-graphics, 7.5 credits

Main field of study
Computer Science

Subject Group
Informatics/Computer and Systems Sciences

Level of classification
First Level

Progression
G2F

Date of Ratification
Approved by Faculty of Technology 2015-05-22
The course syllabus is valid from spring semester 2016

Prerequisites
90 credits in Computer Science, including a basic course in computer graphics 7.5 credits.

Objectives

Upon completion of the course, students should:

- have acquired a deeper knowledge about important theories in 3D graphics
- be well acquainted with and be able to efficiently use various representations within 3D graphics
- be well experienced in 3D programming in OpenGL
- with a good ability be able to model in 3D
- understand and suggest solutions on general 3D problems

Content

The course addresses basic 3D representations, 3D programming in OpenGL, and advanced rendering techniques such as ray-tracing, radiosity and texture mappings. Further contents are graphics file formats, animation and special representations such as fractal surfaces, particle systems and various physical models.

Type of Instruction

Teaching consists of lectures, seminars and practical work. Practical work is carried out individually or in groups.

Examination

The course is assessed with the grades A, B, C, D, E, Fx or F.
The grade A constitutes the highest grade on the scale and the remaining grades follow

in descending order where the grade E is the lowest grade on the scale that will result in a pass. The grade F means that the student's performance is assessed as fail (i.e. received the grade F).

Assessment of the students performance is made through written examination and/or assignments which are presented orally and/or in written form. The assessment method is decided at the start of the course.

Students who do not pass the regular examination are given the opportunity to do a resit examination shortly after the regular examination

Course Evaluation

During the course or in close connection to the course, a course evaluation is to be carried out. The result and analysis of the course evaluation are to be communicated to the students who have taken the course and to the students who are to participate in the course the next time it is offered. The course evaluation is carried out anonymously. The compiled report will be filed at the Faculty.

Credit Overlap

The course cannot be included in a degree along with the following course/courses of which the content fully, or partly, corresponds to the content of this course:2DV303 3D-graphics, 7.5 credits

Other

Grade criteria for the A–F scale are communicated to the student through a special document. The student is to be informed about the grade criteria for the course by the start of the course at the latest.

Required Reading and Additional Study Material

Required reading

Hearn, D & Baker, P, *Computer Graphics with OpenGL*, 3rd Ed., Prentice Hall, 2004.

Pages 350 (850).

DFM, *Distributed material*. Pages 50 (50).