



## Course syllabus

Faculty Board of Science and Engineering  
School of Computer Science, Physics and Mathematics

2DV303 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 Organisational Committee 2009-09-08

The course syllabus is valid from spring semester 2010

### **Prerequisites**

At least one and a half year of university studies (equal to 90 higher education credits), including a basic course in computer graphics.

## Expected learning outcomes

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 Fail (U), Pass (G) or Pass with Distinction (VG).

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

A written course evaluation will be carried out at the end of the course in accordance with the guidelines of the University. The course evaluation will be filed at the department.

### Required Reading and Additional Study Material

#### **Required reading**

Hearn, D & Baker, P, *Computer Graphics with OpenGL*, 3rd Ed., Prentice Hall, 2004. Pages 350 (850).

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