Computer Graphics

Programme course

6 credits

Datorgrafik

TNM046

Valid from: 2017 Spring semester

Determined by
Board of Studies for Computer Science
and Media Technology

Date determined
2017-01-25

Main field of study
Media Technology and Engineering

Course level
First cycle

Advancement level
G1X

Course offered for
- Media Technology and Engineering, M Sc in Engineering

Entry requirements
Note: Admission requirements for non-programme students usually also include admission requirements for the programme and threshold requirements for progression within the programme, or corresponding.

Prerequisites
Linear algebra, fundamental skills in programming, skills in object oriented programming

Intended learning outcomes
After the course, students should be able to list, explain and use common and basic methods for image synthesis. Students should be able to choose and motivate methods that solve common problems in the area of computer graphics, and implement solutions to real problems in their own program code.

Course content
2D graphics: transformations, rendering. Graphics programming in 2D. 3D graphics: objects, polygons/triangles, transformations, projections, perspective, hidden surfaces, local lighting models, texture mapping. Simple graphics programming in 3D.

Teaching and working methods
Lectures presenting an overview of the theory, laboratory work for application and detail. The textbook and the course material are in English.

Examination

LAB1	Laboratory work	3 credits	U, G
TEN1	Written examination	3 credits	U, 3, 4, 5

Grades

Four-grade scale, LiU, U, 3, 4, 5

Other information

Supplementary courses: 3D Computer Graphics and animation, plus a number of advanced level courses in computer graphics and related subjects.

Department

Institutionen för teknik och naturvetenskap

Director of Studies or equivalent

Camilla Forsell

Examiner

Sasan Gooran

Course website and other links

http://www2.itn.liu.se/utbildning/kurs/index.html?coursecode=TNM046

Education components

Preliminary scheduled hours: 44 h
Recommended self-study hours: 116 h

Course literature

Steven J. Gortler: Foundation of 3D Computer Graphics

Common rules

Regulations (apply to LiU in its entirety)

The university is a government agency whose operations are regulated by legislation and ordinances, which include the Higher Education Act and the Higher Education Ordinance. In addition to legislation and ordinances, operations are subject to several policy documents. The Linköping University rule book collects currently valid decisions of a regulatory nature taken by the university board, the vice-chancellor and faculty/department boards.

LiU's rule book for education at first-cycle and second-cycle levels is available at http://styrdokument.liu.se/Regelsamling/Innehall/Utbildning_pa_grund-_och_avancerad_niva.