



# DD2258 Introduction to Visualization, Computer Graphics and Image/Video Processing 7.5 credits

Introduktion till visualisering, datorgrafik och bild- och videobehandling

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

## Establishment

The official course syllabus is valid from the spring semester 2025 in accordance with the decision from the director of first and second cycle education: J-2024-2232. Decision date: 2024-10-16

## Grading scale

A, B, C, D, E, FX, F

## Education cycle

Second cycle

## Main field of study

Computer Science and Engineering

## Specific prerequisites

Knowledge and skills in programming, 6 credits, corresponding to completed course DD1337/DD1310-DD1319/DD1321/DD1331/DD100N/ID1018.

## Language of instruction

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

## Intended learning outcomes

Having passed the course, the student should be able to

- account for fundamental concepts in computer graphics such as transformations, lighting models, hidden surface removal and rendering
- explain the principles of some basic algorithms for computer graphics and to some extent compare and evaluate these algorithms
- explain and apply basic principles in interaction programming
- explain basic concepts in information visualisation and scientific visualisation
- explain basic concepts in image and video processing.

## Course contents

The course provides the basics of visualisation and visual communication through technologies, examples, demonstrations and labs in different application fields, such as computer games, medical visualisation, urban planning, information visualisation, image and video processing. The course is both theoretical and practical, interweaving theory with lab assignments. Current tools in the focus areas of the course will be introduced.

## Examination

- TENA - Written exam, 7.5 credits, grading scale: A, B, C, D, E, FX, 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.

## 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.