



DM2531 Graphic Arts Production 7.5 credits

Grafisk produktion

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

Establishment

Course syllabus for DM2531 valid from Autumn 2009

Grading scale

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

Education cycle

Second cycle

Main field of study

Computer Science and Engineering

Specific prerequisites

Single course students: 90 university credits including 45 university credits in Mathematics or Information Technology. Swedish B, or equivalent and English A or equivalent.

Language of instruction

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

Intended learning outcomes

After completing the course the students are supposed to be able to:

- describe the main printing methods and their sub stages such as paper transport and ink transfer
- describe the main post press operations; cutting, folding and binding
- describe the principle for environmental protection marking of printed products with respect to printing method and paper grade
- describe rules and guidelines for environmental protection
- explain the stages of paper production
- predict optical and mechanical properties of printed products
- relate printability and runnability to paper, ink and printing press
- planning graphic arts production control systems
- produce a four-colour print in sheet-fed offset
- explain the principle for measuring print quality in the form of print density, dot gain, optimal ink level, NCI, using a densitometer and perform the measurements
- describe quality control methods in the graphic arts production work flow
- independently compile information and present it to an audience
- work and cooperate in project groups and within given time limits write a report and present so that the students can:
 - produce technically well structured and typographically appealing documents,
 - make suitable choices for the production of printed products with respect to the number of copies, print quality and delivery time
 - choose relevant print method and materials for graphic arts production
 - analyze construction and control systems for graphic arts production systems.

Course contents

Laboratory work in printing technology and visits to graphic arts companies within the following areas:

Paper manufacturing. Paper production mechanical and optical properties, printability and runnability.

Printing inks. Composition, drying principles and analyze methods.

The development of printing presses. Different printing methods such as letter press, lithographic offset, gravure, screen non impact printing methods. Subsections: the different parts of the printing press and paper transport in the press.

Print quality, measurement and control of the printing process.

Course literature

H. Kipphan: Handbook of print media

Examination

- INL1 - Assignment, 1.5 credits, grading scale: P, F
- PRO1 - Project, 3.0 credits, grading scale: P, F
- LAB1 - Laboratory Work, 3.0 credits, grading scale: P, 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.

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/heder-skodex/1.17237?l=en_UK.

Other requirements for final grade

Hand-in assignments (INLA; 1,5 university credits) Laboratory assignments (LAB1; 3 university credits)

Project work (PRO1; 3 university credits)

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.