



FIL3012 Planning and Performing of Experiments in Inkjet Printing Technology 7.5 credits

Planering och genomförande av experiment med bläckstråleteknik

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

Establishment

Course syllabus for FIL3012 valid from Autumn 2012

Grading scale

G

Education cycle

Third cycle

Specific prerequisites

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Prerequisites

Basic knowledge in physics. Interest in diving into a multi-disciplinary field

Language of instruction

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

Intended learning outcomes

Course contents

This seminar will give in an introduction into inkjet printing technology, comprising the fundamental physical principles of drop generation in the different types of inkjet technologies, the relationship between fluid rheology and drop formation process. The seminar will further deal with the different pre-and post processes required to produce functional product (coatings, electrical tracks, optical devices etc).

A specific feature of this seminar will be the way of operation. We will start the seminar with a session to discuss and identify a specific application area of inkjet printing with functional fluids (e.g. inline printing of electrical tracks for electrical devices). In the following sessions we will study and discuss related literature and define an area where we plan experimental investigations to expand the available knowledge base. These experiments should be prepared and carried out with external academic or industrial research partners, so that external presentations are planned to be part of the seminar.

In the following sessions and 'home work' actions the experiments will be carried out, will be analyzed, and reported.

Goal of the seminar will be a publication of the work and results in an international conference or journal.

The experimental part of the work will be carried out in the labs of XaarJet AB.

Disposition

Hp – credits: 7.5 (50 hours)

Language: English

Structure of the Course:

- Weekly seminar meetings and discussion
- Presentation by the students on specific literature relating to the selected topic (45 min)
- Potentially seminar presentations by external experts ,
- Hands-on experiments in the labs of XaarJet AB
- Analysis, discussion and conclusion of the experiments
- Goal: Writing a publication on the findings

Course literature

Relating literature (textbooks and journal papers) will be identified in the initial session

Examination

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.

Grading scale P/F

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.