MH240X Degree Project in Applied Material Physics, Second Cycle 30.0 credits

Examensarbete inom tillämpad materialfysik, avancerad nivå

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

Establishment

Course syllabus for MH240X valid from Autumn 2012

Grading scale

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

Education cycle

Second cycle

Main field of study

Materials Science and Engineering, Engineering Physics

Specific prerequisites

A major part of the courses, at least 240 university credits, must be finished before the start of the degree project. The examiner must ensure that the student has sufficient knowledge within the specialisation and has a sufficient number of university credits. Exemption from these requirements can be given by the Director of Undergraduate Studies. The degree project should normally be performed during the last term of the studies.

Language of instruction

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

Intended learning outcomes

The student is expected to demonstrate the ability to:

- apply relevant knowledge and skills to a given problem within the engineering field of study,
- collect additional knowledge and information necessary for the completion of the task
- present the results in a written report and orally including a discussion of the prerequisites, methodology, approach and results of the work
- deepen their knowledge and skills in the field of Applied Material Physics

Course contents

The degree project is an independent study within a subject defined by the examiner. It should normally be a specialization within the chosen engineering discipline and be on advanced level. The project work shall correspond to 20 weeks full time studies. The results must be reported in written form and orally at a public seminar.

Disposition

Independent work on a project basis, under the guidance of a supervisor at a company/organization and/or the examiner at KTH. Performed at KTH or elsewhere in Sweden or abroad.

Course literature

Självständig litteratursökning och litteraturstudier inom det givna problemområdet förväntas. Kurslitteratur kan även föreslås av examinator eller handledare

Examination

- XUPP - Examination Question, 30.0 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.

Other requirements for final grade

The degree project is performed individually or together with another student. In the latter case the examiner must ensure that the contribution of each student corresponds to the requirements for an individual degree project. The project is reported in writing and orally in english or swedish.

The evaluation criteria for the degree project are given below, divided into the categories: Process, Engineering-related and Scientific Content and Presentation. The final grade is given by the examiner based on an overall assessment. To get a passing grad the student can not be insufficient in any of the three evaluation categories. The evaluation criteria should also be regarded as a guideline for the students aiming at higher grades.

Process

Excellent
Independently plan and carry out the project within agreed time frames, show good initiative and be open to supervision and critique. Independently identify one's own need for new knowledge and acquire this knowledge. Show a good ability to adopt the perspective of another's work and formulate relevant and constructive critique.

Good
Plan and carry out the degree work within agreed time frames, show initiative and be open to supervision and critique. Show the ability to acquire new knowledge. Show the ability to adopt the perspective of another's work and formulate relevant critique.

Sufficient
Carry out the project work within agreed time frames, show certain initiative and be open to supervision and critique. Show a sufficient ability to acquire new knowledge. Show a sufficient ability to adopt the perspective of another's work and formulate critique.

Insufficient
Insufficient respect for agreements, severe lack of independence, or disregard for supervision. Lacks the ability or desire to acquire new knowledge.

Engineering-related and scientific content

Excellent
From problems/inquiries and methodology, show a very good ability to apply engineering-related and scientific skills like problem formulation, modelling, analysis, development and evaluation in a systematic way. Where this is relevant, show awareness of societal and ethical aspects, including economically, socially, and ecologically sustainable development.

Good
From problems/inquiries and methodology, show a good ability to apply engineering-related and scientific skills like problem formulation, modelling, analysis, development and evaluation in a systematic way. Where this is relevant, show awareness of societal and ethical aspects, including economically, socially, and ecologically sustainable development.

Sufficient
From problems/inquiries and methodology, show a sufficient ability to apply engineering-related and scientific skills like modelling, analysis, development, and evaluation. Where

this is relevant, show a certain awareness of societal and ethical aspects, including economically.

Insufficient
Significant lack of engineering-related or scientific skills or lack of methodology despite the request.

Presentation

Excellent
Show a well disposed report, with clear accounts of the project and the results, clear analysis, and well founded argumentation, as well as good language usage, format and scientific accuracy. Show a good ability to orally present with clear argumentation and analysis, and also a good ability to discuss the work.

Good
Show a well disposed report with clear accounts of the project and the results, analysis and argumentation, as well as good language usage and format. Show a good ability to orally present and discuss the project.

Sufficient
Show a written report with acceptable structure, format and language usage. Show the ability to orally present the report.

Insufficient
Lacks important elements in the written report despite the request, or lack of the ability to orally present or discuss the project.

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.