MJ143X Degree Project in Materials Design, First Cycle 15.0 credits

Examensarbete inom Materialdesign, grundnivå

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

Establishment

Course syllabus for MJ143X valid from Autumn 2007

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

MJ1112 Applied Thermodynamics, 9 hp or corresponding knowledge

MJ1401 Heat transfer, 6 hp, or corresponding knowledge

Fluid mechanics, 6 hp, or corresponding knowledge

Language of instruction

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

Intended learning outcomes

After completition of the course the student should be able to:

- Formulate problems and apply methodology within the subjectarea of energy technology to search for and validate solutions
- Apply knowledge and skills that have been achieved during the studies on problems within the field of energy techonolgy.
- Plan his/her own work to achieve given partial objectives
- Analyse the need of scientific information, perform literature survey and validate the found information
- Present work in a written report with requirements on content, structure and language
- Utilise references, figures, tables and equations at an acceptable level in a report
- Write a summary in English with the correct use of the terminology within the subject area
- Perform oral presentation with requirements on timeframe and clear language, perforamance and illustrations
- Review and give comments on a technical work (opposition) and be able to meet corresponding viewpoints on his/her own work
- Make assumptions and assess their validity through sensitivity analysis
- Perform rought estimates to be able to validate models and assess their reasonableness

Course contents

The course starts with a series of lectures to give the students background and knowledge in the field of Energy Technology. In beginning of the course the students also choose project to work with during the semester (the project proposals are supplied by the course instructors); and the project is supported by compulsory seminars throughout the course. Before each seminar the students need to hand in a written report and also prepare a oral presentation. The course leaders work as coaches supporting and giving feedback to the students: on their projects, their reports and their presentations. For the final seminar the students should also prepare an opposition on another group's work.

In each project/projectpart, the students work in groups of two persons.

Course literature

Handouts and the students' own literature surve

Examination

- XUPP - Examination Question, 15.0 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

Project work (15 hp)

This includes: Compulsory participation in the common seminars

Submission of reports and partial reports according to given instructions

Oral presentations on assigned seminars

Opposition on final seminar

Grading (A-F) is given according to:

Technical content in the final report: 60%

Design of the final report: 25%

Final oral presentation: 15%

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.