



# MH100X Degree Project in Materials and Process Design, First Cycle 15.0 credits

Examensarbete inom material och processdesign, grundnivå

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

## Establishment

Course syllabus for MH100X valid from Spring 2011

## Grading scale

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

## Education cycle

First cycle

## Main field of study

Technology

## Specific prerequisites

Students admitted to year three in the degree programme in Materials Design and Engineering - CMATD3, or a student with similar prerequisites

## Language of instruction

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

## Intended learning outcomes

After the course, the student should be able to:

- apply the obtained knowledge and skills about metallic and ceramic materials on problems in materials science and process design
- formulate a technical problem and apply methods in materials science and process design to search and evaluate solutions to the problem
- use independent study forms in order to consolidate and deepen his/her expertise in materials science and process design
- present the solution of an engineering problem in a written technical report with high requirements on content, structure, and language (corresponding to TNC's standards)
- professionally present the own work and review others ' works
- use basic concepts and tools for an active career start

In addition, the students if necessary should be able to:

- make assumptions, and assess their validity by using sensitivity analysis

perform estimates to validate models and assess their reasonableness

## Course contents

The course consists of a larger project work, which should provide a specialization in materials science and process design, and provide training in general engineering skills.

The projects deal with different problems in materials science and process design. The aim of the project is to integrate the technical aspects with the demands made by society in regulations, ethics, economy and environment.

Course leader provides appropriate projects and each project is assigned a dedicated mentor. Opportunity to own proposed project is also possible, and a supervisor from KTH will also then be appointed.

## Disposition

The course includes in addition to the project work also activities such as e.g. information search, lectures and a problem formulation workshop and a final seminar. At the end of the seminar, the students, besides presenting their own work orally, even oppose on another project.

Lectures/practicals

The course includes a series of lectures/practicals connected to the different parts of the course:

\* Presentation of the course

\* Project Planning

\* Information search

\* Written presentation

\* Oral presentation

And:

Project meetings with instructor (ca. 1 h/week unless otherwise agreed with the instructor)

Projects are carried out individually or in groups of up to two students

## Course literature

Individuellt beroende på projekt

## Equipment

Individually, depending on the project

## 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.

General rules and guidelines for degree thesis 15 ECTS-credits for Bachelor's degree:  
<http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/examensarbete/overgripande-regler-och-riktlinjer-for-examensarbete-15-hogskolepoang-for-kandidatexamen-180-hogskolepoang-samt-betygssattning-av-examensarbete-1.27211>

Assessment criteria and criteria for diploma thesis:  
<http://intra.kth.se/regelverk/utbildning-forskning/grundutbildning/examensarbete/bilaga-a-bedomningsgrunder-och-kriterier-for-examensarbete-1.31698>

## Other requirements for final grade

The student has to perform:

- an oral presentation in English at the end of the seminar
- an oral opposition in English at the final seminar

and should submit:

- a written problem formulating report including result from the literature survey in English
- a written final report in English
- a written opposition report in English

## **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.