



MF205X Degree Project in Internal Combustion Engineering, Second Cycle 30.0 credits

Examensarbete inom förbränningsmotorteknik, avancerad nivå

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

If the course is discontinued, students may request to be examined during the following two academic years

Establishment

Course syllabus for MF205X valid from Autumn 2011

Grading scale

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

Education cycle

Second cycle

Main field of study

Mechanical Engineering

Specific prerequisites

The thesis should be part of a deepening in the chosen main subject (Mechanical Engineering) and / or technical field (Internal Combustion Engine) at the advanced level to meet the requirements for a degree. In the normal case the compulsory courses in the master program "Industrial Engineering - Internal Combustion Engine" are as entry requirements.

Depending on the degree work focus and depth, exceptions may be made. If the student wants the final thesis in an area outside the field of technology / training program this must be approved by the director of undergraduate studies (GA).

Language of instruction

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

Intended learning outcomes

General learning outcomes:

After the course the student will be able to

- apply relevant knowledge and skills acquired in the technology to a given problem
- within a given framework, even with limited information, independently analyze and discuss complex issues, and deal with major problems at the advanced level in the technology
- reflect on and critically review their own and others' scientific achievements
- be able to document and present their work, for a given target, with the highest standards of structural, formal and language processing
- be able to identify the need for further knowledge and continuously upgrade their skills

These KTH common goals should be the basis of course objectives for all theses. Additional or specific price target for the thesis may be developed by schools, for training or for individual graduate work topics

Specific learning outcomes:

The student should

- show detailed knowledge of the principles of internal combustion engine design, function, combustion and emission formation
- be able to propose, explain and defend the construction and design solutions for internal combustion engines
- be able to propose, explain and defend the choice of measurement methods, measurement systems and simulation tools for internal combustion engines
- demonstrate the ability to in both Swedish and English, orally and in writing in dialogue with others, present and discuss his or hers findings on combustion-related problems and solutions.

Course contents

The main contents will be adapted to the current situation of the thesis in the form of subject specialization, application area, academic or industrial environment, nationally or internationally, and the like.

Students are expected to demonstrate their ability to, with a high degree of initiative and independence, formulate and solve an engineering problem using a wide range of skills. The topic of the thesis may vary but must contain a significant technical content and have a clear application in internal combustion engine area.

Course literature

The student is expected to use modern webtools and databases to find relevant scientific literature and to find additional ways to other information sources that improve learning and problem solving

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.

KTH-regulations

Other requirements for final grade

KTH-regulations

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.