



SD2224 Vehicle Systems for a Better Environment 8.0 credits

Fordonssystemteknik för en bättre miljö

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

Establishment

Course syllabus for SD2224 valid from Autumn 2007

Grading scale

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

Education cycle

Second cycle

Main field of study

Specific prerequisites

Prerequisites from fundamental courses in mathematics, mechanics, electronics that is equivalent to the first three years of Master of Engineering programs such as M, T, F, K and E.

Language of instruction

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

Intended learning outcomes

Students graduating from the course should be able to:

- describe how vehicles effect the environment on local, regional and global level,
- describe vehicle components and their function
- describe vehicle forces and its relation to weight, air resistance, rolling resistance, etc.
- calculate start, acceleration and retardation of vehicles,
- describe how tires are built, how forces occurs and what affects the rolling resistance,
- have basic knowledge on vehicle curving performance and comfort,
- describe vehicle development from a systems engineering perspective, from market, to requirements and product development.

Course contents

Vehicle use and design. Vehicle systems and sub systems, especially those of importance for energy conversion control, etc. Tires and rolling resistance, powertrain, brakes, transmission, suspension systems, combustion engines. Integration of systems and sub systems. New concepts and systems, e g hybrid and fuel cell cars. Product development process.

Course literature

Compendium Vehicle systems for a better environment and material handed out during the course.

Examination

- ÖVN1 - Assignments, 4.0 credits, grading scale: P, F
- TEN1 - Examination, 3.0 credits, grading scale: A, B, C, D, E, FX, F
- LAB1 - Laboratory Work, 1.0 credits, grading scale: P, 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

Written examination (TEN1; 3 university credits) Approved exercises (ÖVN1; 3 university credits) Laboratory work (LAB1; 2 university credits)

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.