SD1000 Perspectives on Vehicle Engineering 9.0 credits

Perspektiv på farkosttekniken

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

Establishment

Course syllabus for SD1000 valid from Autumn 2008

Grading scale

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

Education cycle

First cycle

Main field of study

Mechanical Engineering, Technology

Specific prerequisites

Language of instruction

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

Intended learning outcomes

The aim of the first-year introductory engineering course is to prepare students for their studies in the Vehicle Engineering programme: to give a broad overview of vehicle engineering and applied mechanics, to initiate early contacts between students and faculty, to provide early hands-on engineering experience including teamwork, oral and written communication, and computational and visualisation tool MATLAB.

Students graduating from the course shall be able to:

- Explain and communicate the main principles of design, function, operation and future development of vehicles and transport systems, and furthermore, be able to identify and explain such factors as infrastructure, logistics, comfort, environment and economy.
- Explain and communicate the main ideas within the theory of science and history of technology, especially be able to distinguish between good and bad science.
- Explain and communicate the main principles within the science of applied mechanics and, especially, explain and communicate the relations between basic theories, models and applied technology.
- As a member of a small team, contribute to, and in oral and written form present and defend, a project.
- Starting from a given technical situation and given mathematical formulas, to plan, program, present and defend a solution to a mechanical problem using MATLAB.

Course contents

Course literature

Compendium: Perspectives on Vehicle Engineering. KTH Aeronautical and Vehicle Engineering. (In Swedish)

Griffiths, D. F. (2001). An Introduction to MATLAB. With additional material by Ulf Carlsson, KTH. The University of Dundee.

Carlsson, U. (2004). Miscellaneous exercises in MATLAB. KTH Aeronautical and Vehicle Engineering.

Examination

- ÖVN1 - Project, 2.0 credits, grading scale: P, F
- ÖVN2 - Matlab, 3.0 credits, grading scale: P, F
- TEN1 - Control test, 4.0 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

Lectures – written tests (TEN1; 4 university credits)
Study visit to industry (gives bonus points on written tests)
Project assignment – oral presentation and written report (ÖVN1; 2 university credits)
MATLAB – oral defence of a solution to an assignment (ÖVN2; 3 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.