



SD1410 Project Course in Lightweight Structures 15.0 credits

Fördjupningsarbete i lättkonstruktioner

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 SD1410 valid from Autumn 2007

Grading scale

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

Education cycle

First cycle

Main field of study

Technology

Specific prerequisites

Solid mechanics. Basic product design and material science is also useful.

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 participant should be able to

- apply knowledge and skills, gained during the education, on problem statements typical for lightweight structures
- formulate a technical task and apply lightweight design methodologies to find and test feasible solutions
- independently solidify and deepen own existing knowledge
- present technical work in writing, in line with standard requirements on content, disposition and language
- identify and discuss ethical questions related to the engineering profession
- act professionally when presenting own work and judging work by others
- use basic instruments for an active career-start
- describe fundamentals of technology-based entrepreneurship.

Course contents

The main part of the work relates to a project task which shall be planned, completed, and reported in line with a given schedule. The project task concerns a product which is to be designed with focus on low structural weight. A marketing plan for the product shall also be developed.

Some theory is covered during the first study-period (period III). It covers composite materials, properties, manufacturing, basic design methods, health and recycling aspects.

Course literature

B. T. Åström, Manufacturing of Polymer Composites, Chapman & Hall, London, 1997.

D. Zenkert and M. Battley, Foundations of Fibre Composites, KTH, 1996.

The course material could be purchased from the department of Aeronautical and Vehicle Engineering, Teknikringen 8, 3rd floor.

Examination

- PRO1 - Project, 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.

Other requirements for final grade

Written report (PRO1; 10 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.