FSD3103 Material Acoustics III 2.5 credits

Materialakustik III

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

Establishment

Course syllabus for FSD3103 valid from Autumn 2018

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

Basic numerical methods and finite element formulations, assumed as background.

Basic and material mechanics, assumed as background.

Basic acoustics, assumed as background.

Basic sandwich structures, assumed as background.

Language of instruction

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

Intended learning outcomes

The student should after completing the course be able to:

- Formulate and discuss the conflicts between lightweight design and acoustic performance for different engineering applications.
- Understand the meaning and effects of environmental aspects related to lightweighting, including for example choice of materials, production methods etc.

Course contents

The objective of the course is to illustrate the conflicts between lightweight structures and acoustics, in particular when different types of materials applied in for example sandwich design. In particular, the course will emphasize general aspects on phenomenological modelling, including computer-based formulations, related to material dynamic behaviour, the environmental aspects and various means for their assessement. Engineering applications will be studied at different levels of complexity. The lecturers in the course will be invited from international research institutes, industries and universities.

Examination

- TENA - Written exam, 2.5 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

The participants are, for full credits, required to actively participate in classroom discussions. Topics will be chosen based on actual lecture contents.

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.