



AF2404 Building Acoustics 7.5 credits

Byggnadsakustik

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

Establishment

On 07/10/2021, the Dean of the ABE School has decided to establish this official course syllabus to apply from autumn term 2022, registration number A-2021-1876 3.2.2

Grading scale

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

Education cycle

Second cycle

Main field of study

The Built Environment

Specific prerequisites

Documented knowledge in Building Materials and Building Physics, 15 ECTS corresponding to the content in courses AF1301 and AF1402.

Eng B/6 according to the Swedish upper secondary school system.

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 students should be able to:

- Describe the physiological effects caused by noise.
- Define basic acoustic definitions.
- Describe how sounds are quantified and are analysed.
- Explain basic principles of sound transmission, sound absorption and sound insulation.
- Calculate sound insulation in dwelling houses.
- Carry out traffic noise calculations.

Course contents

Building acoustics, Basic acoustic definitions and fundamental concept. Quantification and analysis of sound. Physiological effects caused by noise. Sound transmission, sound absorption and sound insulation. Sound pulses, flanking transmission. Traffic noise. Sound propagation outdoors. Sound insulation in multi-family housing. Sound propagation in space. Impact noise and airborne sound insulation.

Examination

- TEN1 - Written exam, 5.0 credits, grading scale: A, B, C, D, E, FX, F
- ÖVN1 - Exercises, 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.

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.