

SYLLABUS

Architectural acoustics 7.5 credits L0009A

Rums- och byggnadsakustik

Course syllabus admitted: Spring 2014 Sp 3 - Spring 2017 Sp 4

**DECISION DATE
2013-11-07**

Architectural acoustics 7.5 credits L0009A

Rums- och byggnadsakustik

First cycle, L0009A

Education level	Grade scale	Subject	Subject group (SCB)
First cycle	G U 3 4 5	Teknisk akustik	Other Subjects within Technology

Entry requirements

In order to meet the general entry requirements for first cycle studies you must have successfully completed upper secondary education and documented skills in English language and Mathematics corresponding to one year studies at an MsC Programme. Fundamental knowledge of oscillating systems (mass-spring-system). Knowledge about the Fourier transform is an advantage but not a requirement.

Selection

The selection is based on 1-165 credits.

Examiner

Fredrik Ljunggren

Course Aim

After the course the student should have acquired the capabilities necessary to;

- Plan rooms to have appropriate acoustic properties for the intended use of the room
- Measure and analyse room's acoustic properties
- Calculate sound insulation for walls and floors
- Measure the sound insulation of walls and floors
- Computer modelling of room acoustics with ray tracing

Contents

- Fundamental acoustics
- Legislation (sound and vibration)
- Measurement techniques
- Hearing
- Structural acoustics
- Room acoustics
- Building acoustics
- Sound insulation
- Room acoustic modelling

Realization

Each course occasion's language and form is stated and appear on the course page on Luleå University of Technology's website.

The course content is presented and covered by lectures, demonstrations, problem solving, computer modelling and laboratory experiments. Laboratory experiments and computer modelling are compulsory and solved in groups.

Examination

If there is a decision on special educational support, in accordance with the Guideline Student's rights and obligations at Luleå University of Technology, an adapted or alternative form of examination can be provided. Written examination based on the theoretical content and its applications. Written reports regarding laboratory experiments and room acoustic modelling tasks are compulsory.

Literature. Valid from Spring 2014 Sp 3

Bodén, Hans and others.: Ljud och Vibrationer, KTH, Norstedts Tryckeri AB, Stockholm.
Optional edition.

Course offered by

Department of Civil, Environmental and Natural Resources Engineering

Items/credits

Number	Type	Credits	Grade
0001	Written exam	5	G U 3 4 5
0003	Written and oral presentation of project work	1.5	G U 3 4 5
0004	Laboratory work	1	U G#

Last revised

by Eva Gunneriusson 2013-11-07

Syllabus established

The syllabus has been confirmed by the Department of Human Work Sciences 2007-02-28