



LUND
UNIVERSITY

Faculty of Medicine

AUDB11, Acoustics I, 5 credits *Akustik I, 5 högskolepoäng* First Cycle / Grundnivå

Details of approval

The syllabus was approved by The Rehabilitation Programmes Board on 2017-04-04 and was last revised on 2020-02-13. The revised syllabus applies from 2020-02-13, autumn semester 2020.

General Information

The course is part of the Bachelor's programme in Audiology, is compulsory for the Degree of Bachelor of Science in Audiology and is offered in semester 1. It complies with the regulations of the Higher Education Ordinance (SFS 1993:100) with later amendments.

Language of instruction: Swedish

Main field of studies

Audiology

Technology

Depth of study relative to the degree requirements

G1N, First cycle, has only upper-secondary level entry requirements

G1N, First cycle, has only upper-secondary level entry requirements

Learning outcomes

The overarching aim of the course is for the student to acquire basic knowledge of central acoustic concepts and processes relevant to audiological diagnostics, treatment and prevention.

Knowledge and understanding

On completion of the course, the student shall be able to:

- describe the acoustic signal by means of basic acoustic terminology
- describe sound propagation in different media
- give an account of basic principles and methods for quantification of sound
- describe basic acoustic processes such as resonance, reverberation, insulation,

- absorption, reflection, diffraction and refraction
- give an account of acoustic components for sound absorption and sound insulation

Competence and skills

On completion of the course, students shall be able to

- use the decibel concept verbally and in simple problem-solving
- solve simple problems with addition of sound from several sources
- use Sabine's formula for simple problem-solving in preventive work

Judgement and approach

On completion of the course, the students shall demonstrate the ability to

- connect the acoustic knowledge to the subject of audiology and realise its potential for individual specialisation in the subject.

Course content

The course contains central basic components in acoustics that are studied thoroughly, while the course encompasses a broad area of acoustic knowledge to provide the orientation that is needed for studies in adjacent courses. The content is summarised in the following points:

- basic description of the acoustic signal and sound propagation
- the decibel concept, levels and weighting filters
- reverberation, insulation, absorption, reflection, diffraction, refraction and diffusion
- resonances in closed spaces and the consequences
- porous absorbents, panel absorbents and Helmholtz absorbents.

Course design

The teaching consists of lectures and group exercises.

Assessment

Written examination.

Number of exams

For each course there is one regular exam and one resit, which is held soon after the course has ended. Students who do not achieve a grade of Pass on either of these occasions will be able to retake the examination at a later date.

New examiner

A student who has twice failed the exam for a course or course component is entitled to have another examiner appointed, unless there are special reasons to the contrary. (SFS 2006:1053)

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

The examiner, in consultation with Disability Support Services, may deviate from the

regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Subcourses that are part of this course can be found in an appendix at the end of this document.

Grades

Marking scale: Fail, Pass.

Entry requirements

General and courses corresponding to the following Swedish Upper Secondary School Programs: Mathematics 2, Science 2, and Social Studies 1b/1a1+1a2. (Biology 1+Chemistry 1+Physics 1a/1b1+1b2 equals Science 1+2)

Further information

Replaces AUDA19

To be admitted to the course, students must be admitted to the Audiology programme.

Subcourses in AUDB11, Acoustics I

Applies from H17

1701 Acoustics I, 5,0 hp
Grading scale: Fail, Pass