



# DT211V The Functioning of the Singing Voice 7.5 credits

Sångröstens funktion

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

## Establishment

Course syllabus for DT211V valid from Autumn 2008

## Grading scale

P, F

## Education cycle

Second cycle

## Main field of study

Electrical Engineering

## Specific prerequisites

Completed upper secondary schooling incl documented proficiency in English, e g TOEFL, IELTS.

## Language of instruction

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

# Intended learning outcomes

After completion of the course participants should be able to

- Describe how vocal sounds are produced;
- Describe how breathing behaviour affects vocal fold vibration and vocal sounds;
- Describe how the vocal tract resonances affect vowel quality and personal voice timbre
- Describe basic factors to be considered when recording voices;
- Describe main factors contributing to the acoustic properties of a room;
- Read and understand scientific articles on voice research.

# Course contents

Lectures

- about anatomy, physiology and acoustics of the voice organ;
- about the voice source and how its properties are affected by variation of vocal loudness and laryngeal adjustments and how it changes with vocal register;
- about relations between vocal tract resonances and vowel and voice quality;
- about differences between voice types;
- about acoustical and physiological voice analysis;
- about risk- factors and strategies for singers performing in different genres;
- about room acoustics and sound recording technology.

# Disposition

20 h lectures 20h and 20 h workshop sessions

In the workshops the participants will observe, in real time, and analyse their own and fellow participants' voices with respect to breathing behaviour, phonation and articulation. They will also interpret spectrogram analyses, measure room acoustical characteristics and try different sound recording possibilities. - Most of these analyses are made using computer programs that are available without costs on the Internet.

# Course literature

J Sundberg: The Science of the Singing Voice

Course compendium

# Examination

- TEN1 - Examination, 6.0 credits, grading scale: P, F
- LAB1 - Laboratory Work, 1.5 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.

Written exam to be delivered 2 weeks after completion of course complemented by descriptions of and homework from workshops

## Other requirements for final grade

Pass on written exam. Delivered descriptions of and homework from workshops.

## 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.