



FDT3314 Articulatory phonetics

7.5 credits

Artikulatorisk fonetik

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

If the course is discontinued, students may request to be examined during the following two academic years

Establishment

Course syllabus for FDT3314 valid from Spring 2022

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

Language of instruction

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

Intended learning outcomes

Be able to

- describe in detail the mechanisms of human voice production

- make basic computations of formant frequencies from geometric models of the vocal tract
- simulate isolated given words using an articulatory model of the voice organ
- give an overview of the state-of-the-art in research in articulatory phonetics
- describe the major simulation methods: source-filter, articulatory modelling, physics-based modelling

Course contents

(AP stands for Articulatory Phonetics (Gick) and AAP for Acoustic & Auditory Phonetics (Johnson).)

Session 1: Readings: AP Chapters 1, 2, 3 (basic anatomy and neural control). Introduction to VocalTractLab.

Session 2: Readings: AP Chapters 4, 5 (breathing and voice source) and AAP Chapter 2 (source-filter theory & quantal theory). Voice source models in VocalTract lab.

Session 3: Readings: AP Chapter 8 AAP Chapter 6 (articulation of vowels and two tube vowel models). Articulation and production of vowels in VocalTractLab.

Session 4: Readings: AP Chapters 6, 7 (articulation in the larynx and the velum).

Session 5: Readings: AP Chapters 9 AAP Chapter 7, 8 (consonants, fricatives)

Session 6: Readings: AP Chapters 10, 11 AAP Chapter 9 (labial sounds, combined articulation, nasals and laterals). Production of complete utterances in VocalTractLab. Demo of ArtiSynth, a state-of-the-art modelling system from the University of British Columbia, Canada (Fels et al.)

Examination

- EXA1 - Examination, 7.5 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.

Active participation in all seminars, preferably on location, remote participation will be possible. Completion of reading assignments. Performing simulations of speech sounds during the labs.

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.