



**Karolinska
Institutet**

Course syllabus for

Speech Communication, 18 credits

Talkommunikation, 18 hp

This course syllabus is valid from spring 2023.

Please note that the course syllabus is available in the following versions:

Spring2017 , Spring2019 , Spring2023 , Spring2024

Course code	2LG072
Course name	Speech Communication
Credits	18 credits
Form of Education	Higher Education, study regulation 2007
Main field of study	Not applicable
Level	GX - First cycle
Grading scale	Pass, Fail
Department	Department of Clinical Science, Intervention and Technology
Decided by	Utbildningsnämnden CLINTEC
Decision date	2016-11-03
Revised by	Education committee CLINTEC
Last revision	2022-10-10
Course syllabus valid from	Spring 2023

Specific entry requirements

For admission to semester 2, students may remain with no more than 15 credits from previous semester in The Study Programme in Speech and Language Pathology.

Objectives

The course contain four components. The intended learning outcomes are described separately for each component.

Speech Production and Speech Analysis (7.5 credits)

On completion of the course the student should be able to:

- account for the production of speech (creation of airflow, voiced and unvoiced sound sources and articulation)
- relate speech production to the acoustic result
- relate speech production to the structure of phonological systems in the world's languages
- perform and critically evaluate chosen acoustic analyses
- use tube models to explain the resonance characteristics of the vocal tract

- account for fundamental features of a selection of representative speech production theories
- account for articulatory, acoustic and perceptual aspects of pitch and voice quality
- account for geographically, socially and individually conditioned sources of variation in voice and pronunciation
- relate the phonetic form of speech to linguistic levels such as morphology, syntax and pragmatics

Speech Perception and Speech Development (3.5 credits)

On completion of the course the student should be able to:

- account for how speech is perceived (acoustic and perceptual aspects)
- account for fundamental features of a selection of representative speech perception theories
- apply relevant physical and psychoacoustic scales
- account for typical features of the early development of spoken language with respect to production and perception

Speech Transcription (2.5 credits)

On completion of the course the student should be able to:

- account for and apply relevant terminology, relevant tools and methods in transcription
- transcribe vowels, consonants and certain prosodic phenomena

Experimental Phonetics (4.5 credits)

On completion of the course the student should be able to:

- carry out experimental phonetic studies
- present experimental phonetic studies in writing
- review others' experimental phonetic reports based on given criteria

Content

The course contains four parts.

Production and Speech Analysis, 7.5 hp

Grading scale: GU

Basic phonological concepts in phoneme theory and phonotactics are explained. The prosodic aspects of speech are discussed and related to morphology, syntax, semantics and pragmatics. In laboratory sessions, acoustic analysis is conducted on the speech signal's segmental and prosodic aspects. Sources of variation in pronunciation are discussed and related to physiological, sociolinguistic, idiolectal as well as linguistic factors. The typology of speech sounds as well as explanations for the manifested organisation of speech sounds in phonological systems is discussed. Different voice qualities are demonstrated and exercise is given in the perceptual analysis of voice quality. The physiological and aerodynamic preconditions for phonation as well as the acoustic properties of the voice source are treated. Emphasis is given to aspects that contribute to different voice qualities. An overview is given over the main instrumental methods for voice analysis. Chosen methods for voice analysis are used in laboratory sessions. The relationships between the voice source, the resonance characteristics of the vocal tract, and the resulting speech sound are studied by means of inter alia the source-filter concept as well as models for relations between formant resonances and cavity.

Speech Perception and Speech Development, 3.5 hp

Grading scale: GU

An overview is given over perceptual sensitivity and resolution regarding air pressure and frequency. Relevant physical and psychoacoustic scales are explained and applied in laboratory sessions.

Audio-visual perception is brought up and the importance of the visual aspect in perception is demonstrated. Chosen theories in speech theories are presented and discussed. The typical stages in children's speech development are gone through and are related to environmental factors and physiological preconditions.

Speech Transcription, 2.5 hp

Grading scale: GU

Symbol conventions (IPA) relevant for segmental transcription, as well as associated terminology, are discussed and applied in training sessions.

Experimentalfonetik, 4.5 hp

Grading scale: GU

In the final component in the course, basic skills are given for planning, carrying out and presenting experimental phonetic studies. The component consist partly of laboratory elements, partly of exercises in how to write and assess written scientific reports.

Teaching methods

Teaching consists of lectures, group work, laboratory sessions and report writing. Laboratory sessions are compulsory activities that not are assessed. Attendance at and active participation in laboratory sessions and final review is compulsory.

In case of absence at compulsory teaching activities, the student is responsible to contact the course coordinator for complementary assignment. Assessing responsible about and if so how absence from compulsory education elements can be taken again. Until the student has participated in the compulsory parts (or compensated for any absence with assigned tasks in accordance with instructions from the course director) the final study results cannot be reported. Absence from a mandatory education element could mean that the student cannot complete the component/course until the next time the course is offered.

Examination

The different course components are assessed each for oneself during the course through written tests (*Speech Production and Speech Analysis* and *Speech Perception and Speech Development*), a test in speech laboratory environment (*Speech transcription*) as well as group reports (*Experimental phonetics*).

Students who do not pass the regular examination are entitled to undergo the examination at five more occasions. The third examination is the following regular examination in the course. As examination, the times are counted when the student has participated in the same test. Submission of blank exam is counted as examination. Examination to which student registered but not participated be counted not as examination.

Transitional provisions

Examination can be carried out according to an earlier literature list during a period of one year after the date of a renewal of the literature list. Examination will be provided during a period of one year after a possible closing of the course.

Other directives

The course is carried out by The Department of Linguistics, Stockholm University, where all teaching in

the course is also given.

Course evaluation will be carried out according to the guidelines established by the Board of Higher Education.

Literature and other teaching aids

Manual of clinical phonetics

Ball, Martin J.

London : Routledge, Taylor & Francis Group, 2021 - xxix, 539 pages

ISBN:9780367336288 LIBRIS-ID:l2lr8ggfj8v8s0db

URL: [Länk](#)

[Library search](#)

Catford, John Cunnison

A practical introduction to phonetics

2. ed. : Oxford : Oxford University Press, 2001 - xiii, 229 s.

ISBN:0-19-924635-1 (pbk) ; £14.99 LIBRIS-ID:8278206

[Library search](#)

Engstrand, Olle

Fonetikens grunder

Lund : Studentlitteratur, 2004 - 355 s.

ISBN:91-44-04238-8 (inb.) LIBRIS-ID:9673093

URL: [http://www.studentlitteratur.se/fonetikensgrunder-z-Ljudexempel, övningsuppgifter, termordlista, länkar till andra relevanta webbplatser](http://www.studentlitteratur.se/fonetikensgrunder-z-Ljudexempel,övningsuppgifter,termordlista.länkar-till-andra-relevanta-webbplatser)

[Library search](#)

Gobl, C; Ní Chasaide, A

Voice Source Variation and Its Communicative Functions

URL: [Länk](#)

Ingår i:

The handbook of phonetic sciences

Oxford : Blackwell, 1997 - viii, 904 s.

ISBN:0-631-18848-7 LIBRIS-ID:5084988

[Library search](#)

Johnson, Keith

Acoustic and auditory phonetics

3 ed. : Malden, MA : Wiley-Blackwell, 2012 - ix, 222 p.

ISBN:978-1-4051-9466-2 (pbk. : alk. paper) LIBRIS-ID:12458552

[Library search](#)

Speech production and speech modelling

Hardcastle, William J.; Marchal, Alain

Dordrecht : Kluwer Academic Publishers, cop. 1990 - xi, 448 s.

ISBN:0-7923-0746-1 LIBRIS-ID:5653651

[Library search](#)

Boysson-Bardies, Bénédicte de.

Developmental neurocognition : speech and face processing in the first year of life

Dordrecht ; Boston : Kluwer Academic Publishers, c1993. - xvii, 498 p.

ISBN:9780792321880 LIBRIS-ID:19758157

[Library search](#)

Hoff, Erika; Shatz, Marilyn.

Blackwell handbook of language development

Malden, MA : Blackwell Pub., 2007. - xii, 502 p.

ISBN:9780470757833 LIBRIS-ID:12129301

[Library search](#)

Sundberg, Johan

Röstlära: fakta om rösten i tal och sång

3., utvidgade uppl. : Stockholm : Proprius, 2001 - 293, [1] s.

ISBN:91-7118-885-1 LIBRIS-ID:8370453

[Library search](#)

Styler, W

Using Praat for Linguistic Research

University of Michigan Linguistics, 2016

URL: [Länk](#)

Handbook of the International Phonetic Association : a guide to the use of the international phonetic alphabet

Cambridge : Cambridge Univ. Press, cop. 1999 - viii, 204 s.

ISBN:0-521-65236-7 (cased) ; No price : Formerly CIP LIBRIS-ID:5027063

[Library search](#)

Kuhl

Early language acquisition: Cracking the speech code. Nature Reviews: Neuroscience, 5(11), 831-843. doi: 10.1038/nrn1533

2004

Brain talk : discourse with and in the brain : [papers from the first Birgit Rausing Language Program Conference in Linguistics, Lund, June 2008]

Alter, Kai-Uwe

Lund : [Språk- och litteraturcentrum], Lunds universitet, 2009 - 334 s.

ISBN:9789163355615 LIBRIS-ID:11703022

[Library search](#)

The production of speech

MacNeilage, Peter F.

New York : Springer-Verlag, cop. 1983 - xvi, 302 s.

ISBN:0-387-90735-1 LIBRIS-ID:4877279

[Library search](#)

Lindblom, Björn

Role of articulation in speech perception: clues from production

1996 Ingår i:

The journal of the Acoustical Society of America.

New York : American Institute of Physics for the Acoustical Society of America, 1929-

ISSN:0001-4966 LIBRIS-ID:3402251

99 (1996) :3, s. 1683-1692

Approaches to the evolution of language : social and cognitive bases

Hurford, James Raymond

Cambridge : Cambridge Univ. Press, 1998 - ix, 442 s.

ISBN:0-521-63049-5 LIBRIS-ID:5026169

[Library search](#)

The handbook of phonetic sciences

Hardcastle, William J.; Laver, John

Oxford : Blackwell, 1997 - viii, 904 s.

ISBN:0-631-18848-7 LIBRIS-ID:5084988

[Library search](#)

Att förstå det mänskliga : humanistisk forskning vid Stockholms universitet

Dahlbäck, Kerstin

Stockholm : Natur och kultur, 2000 - 331, [1] s.

ISBN:91-27-07927-9 LIBRIS-ID:7230331

[Library search](#)

Vihman, Marilyn May

Phonological development : the first two years

2014

LIBRIS-ID:18216223

Bruce, Gösta

Vår fonetiska geografi : om svenskans accenter, melodi och uttal

1. uppl. : Lund : Studentlitteratur, 2010 - 239 s.

ISBN:9789144050539 LIBRIS-ID:11310840

URL: [Interaktivt webbmateriel](#)

[Library search](#)

Publication manual of the American Psychological Association : the official guide to APA style

Seventh edition : Washington, D.C. : American Psychological Association, 2020 - xxii, 427 pages

ISBN:9781433832161 LIBRIS-ID:q1g750s6n082gqw5

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