

Syllabus

for course at advanced level

Data collection in speech and voice research
Datainsamling för tal- och röstforskning

**7.5 Higher Education
Credits**
7.5 ECTS credits

Course code:	LIDF01
Valid from:	Autumn 2020
Date of approval:	2020-01-22
Department	Department of Linguistics
Main field:	Linguistics
Specialisation:	A1N - Second cycle, has only first-cycle course/s as entry requirements

Decision

This syllabus was developed by the Faculty Board of Humanities 2020-01-22 and adopted by the Board of the Department of Linguistics 2020-01-22.

Prerequisites and special admittance requirements

Degree of Bachelor of Arts in Linguistics or the equivalent including an individual degree project of 15 ECTS credits or the equivalent in Phonetics or Computational Linguistics. Or a Degree of Master of Science in Speech and Language Pathology. Or a Degree of Bachelor of Science or the equivalent in Computer and Systems Sciences, Computer Science, Mathematics, Mathematical statistics, or Engineering Physics. English 6 or equivalent.

Course structure

Examination code	Name	Higher Education Credits
1001	Data collection in speech and voice research	7.5

Course content

The course provides an overview of current methods of collecting data for speech- and voice research (including experimental phonetics) and gives practical and theoretical knowledge of: 1. Recording technology for acoustic signals, specifically for purposes of speech- and voice research (e.g., microphone characteristics, placement of microphones, recording environment, calibrating for sound level measurements, sound level measurements and measurements of background noise). 2. Recording techniques for various physiological signals (so called DC signals), including the use of an oscilloscope. 3. Selected methods for studying the three fundamental components of speech production: initiation (the creation of airflow in the vocal tract), articulation (the modulation of airflow in the vocal tract), and phonation (the modulation of airflow through the glottis). Data collection methods related to initiation include Respiratory Inductance Plethysmography (RIP) and Spirometry for the measurement of lung capacity and for calibrating RIP. Data collection methods relating to articulation include Electromagnetic Articulography (EMA) and Magnetic Resonance Imaging (MRI). Data collection methods related to phonation include Electroglottography (EGG), inverse filtering, Voice Range Profile (VRP) and the use of contact microphones. Additional methods may be covered. Where relevant, software for recording and analysis using these methods will also be discussed. These include software for: - multichannel recording of acoustic and physiological signals - sound level measuring - analysis of RIP data - collection and analysis of EGG data - inverse filtering - collection and analysis of VRP data.

Learning outcomes

Having completed the course, students are expected to be able to:

- plan and carry out the collection of acoustic signal data with a very high degree of experimental control
- plan and carry out data collection relating to initiation, articulation and phonation
- use relevant terminology and relevant tools to visualise, process and analyse acoustic and physiological signals.

Education

Instruction is given in the form of lectures and laboratory work.

Course requirements: peer review of written assignments and active participation in a final seminar.

The language of instruction is English.

For more information, please refer to the course description. The course description will be made available no later than one month before the course starts.

Forms of examination

a) The course is examined on the basis of written assignments. The principles for weighting individual course assignments are described in the grading criteria. The language of examination is English. For more information, please refer to the course description. The course description will be made available no later than one month before the course starts.

b) Grades will be set according to a seven-point scale related to the learning objectives of the course:

A = Excellent

B = Very good

C = Good

D = Satisfactory

E = Adequate

Fx = Inadequate

F = Totally inadequate

c) Students will be informed of the written grading criteria when the course starts. Once communicated, the grading criteria are binding.

d) In order to pass the course, students must receive a grade of E or higher on all examination components, complete all mandatory assignments and meet the attendance requirement. Under special circumstances, the examiner may, after consulting with the coordinating teacher, grant the student exemption from the obligation to participate in certain mandatory course elements or complete mandatory. The student may be assigned a compensatory assignment.

e) At least two examination opportunities are offered for each course. At least one examination opportunity is offered in an academic year when the course is not given. Students who receive the grade Fx or F twice by the same examiner are entitled to have another examiner appointed for the next examination, unless there are special reasons to the contrary. Such requests should be made to the department board. Students who receive the grade E or higher may not retake the examination to attain a higher grade.

f) Students who have received the grade Fx on the written assignments may be permitted to submit supplementary work in order to convert the grade into a passing grade if the student is close to meeting the criteria for a passing grade. The additional work should be submitted within a week of the examiner notifying the student of the need to complete it. Adequate corrections of simple mistakes related to formatting will be graded using the grades A-E. Adequate corrections of flaws related to understanding – minor misunderstandings, minor inaccuracies or too limited arguments – will be graded using the grades C-E.

Interim

When the syllabus is discontinued, students have the right to be examined according to this syllabus once per semester during a transition period of three semesters.

Limitations

This course may not be included in a degree together with a course, taken and passed in Sweden or elsewhere, of fully or partially overlapping content.

Required reading

Please see the Department's education pages at www.ling.su.se. An updated reading list will be made available no later than two months before the course starts.