

# **Department of Phonetics**

Academic year 2024 / 2025

Date: 04.03.2024

## **Studies**

# University undergraduate double major study

## Phonetics

### 1. semester

#### Mandatory courses

**Internal elective courses - choose a min. of 27 ECTS credits during course of study - from 1st to 6th semester choose a min. of 27 ECTS credits (16774)**

216729	Croatian speaks through phraseology	5	30/15/0
250755	Discourse of Journalism and Mass Media	5	15/30/0
#194	Ethics of Communication	4	15/30/0
#1668	Foreign language learning	4	30/0/0
51690	Foundations of Cognitive Linguistics	5	30/15/0
35899	General Linguistics	5	30/30/0
36733	Information and communication theory	3	30/0/0
80856	Introduction to Semiology	5	30/15/0
160771	Word and sentence prosody	4	15/30/0

**Foreign language for special purposes - choose one language (1933)**

**Substitute course for foreign language for special purposes - choose a substitute course (1998)**

36738	Course in Greek Language 1	2	0/30/0
198933	Croatian Sign Language 1	3	15/0/30
125808	Czech language (for students of other study programmes)	5	0/60/0
#33704	French Language 1 - Level A2	2	0/30/0
#33741	German Language 1 - Level A2	2	0/30/0
52334	Indo-European Language Course: Old Irish I	3	15/15/0
#33796	Italian Language 1 - Level A2	2	0/30/0
#33769	Russian Language 1 - Level A2	2	0/30/0
86830	Slovak Language (for Non-Slovakists)	5	0/0/60
#33784	Spanish Language 1 - Level A2	2	0/30/0

## 2. semester

### Mandatory courses

39624	Physical Education 2	0	0/0/30
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### Internal elective courses - choose a min. of 27 ECTS credits during course of study - from 1st to 6th semester choose a min. of 27 ECTS credits (16774)

37164	Applied Linguistics	5	30/30/0
#35153	Coarticulation	4	15/30/0
#170	History of Linguistic Theories	4	30/15/0
36469	Introduction to Croatian as a Mother Tongue and Foreign Language	5	30/30/0
170262	Introduction to Psycholinguistics	5	30/15/0
250730	Language of Dramatic Texts	5	30/15/0
#168	Languages of the World	4	30/15/0
37171	Linguistics and Its Dialects	5	30/15/0
#35155	Neurophonetics	4	30/15/0
36734	Non-verbal communication	5	15/30/0
51306	Phonetics and phonology	3	30/0/0
#1172	Sociolinguistics	4	30/15/0
160763	Stylistic Concepts	5	30/15/0

### Foreign language for special purposes - choose same language as in 1st semester (1934)

### Substitute course for foreign language for special purposes - choose a substitute course (1999)

36740	Course in Greek Language 2	2	0/30/0
198934	Croatian Sign Language 2	3	15/0/30
#33706	French Language - Level A2	2	0/30/0
#33744	German Language 2 - Level A2	2	0/30/0
#33798	Italian Language 2 - Level A2	2	0/30/0
#33771	Russian Language 2 - Level A2	2	0/30/0
86830	Slovak Language (for Non-Slovakists)	5	0/0/60
#33785	Spanish Language - Level A2	2	0/30/0

### 3. semester

#### Mandatory courses

51304	General Phonetics	5	45/0/15
51303	Orthoepy of Croatian language I + Speech exercises	5	0/30/15
50927	Physical Education 3	0	0/0/30

#### Internal elective courses - choose a min. of 27 ECTS credits during course of study - from 1st to 6th semester choose a min. of 27 ECTS credits (16774)

216729	Croatian speaks through phraseology	5	30/15/0
250755	Discourse of Journalism and Mass Media	5	15/30/0
#194	Ethics of Communication	4	15/30/0
#1668	Foreign language learning	4	30/0/0
51690	Foundations of Cognitive Linguistics	5	30/15/0
35899	General Linguistics	5	30/30/0
36733	Information and communication theory	3	30/0/0
80856	Introduction to Semiology	5	30/15/0
160771	Word and sentence prosody	4	15/30/0

#### 4. semester

##### Mandatory courses

50932 Physical Education 4 0 0/0/30

##### Mandatory courses - in 4th and 6th semester choose a total of 17 ECTS credits (3654)

#5757 Hearing and speech 6 30/0/30

51310 Linguistics of speech 5 60/0/0

51321 Rhetoric 6 30/30/0

##### Internal elective courses - choose a min. of 27 ECTS credits during course of study - from 1st to 6th semester choose a min. of 27 ECTS credits (16774)

37164 Applied Linguistics 5 30/30/0

#35153 Coarticulation 4 15/30/0

#170 History of Linguistic Theories 4 30/15/0

36469 Introduction to Croatian as a Mother Tongue and Foreign Language 5 30/30/0

170262 Introduction to Psycholinguistics 5 30/15/0

250730 Language of Dramatic Texts 5 30/15/0

#168 Languages of the World 4 30/15/0

37171 Linguistics and Its Dialects 5 30/15/0

#35155 Neurophonetics 4 30/15/0

36734 Non-verbal communication 5 15/30/0

51306 Phonetics and phonology 3 30/0/0

#1172 Sociolinguistics 4 30/15/0

160763 Stylistic Concepts 5 30/15/0

## 5. semester

### Mandatory courses

51613	Orthophony	5	30/0/15
51614	Speech development	5	30/30/0

### Internal elective courses - choose a min. of 27 ECTS credits during course of study - from 1st to 6th semester choose a min. of 27 ECTS credits (16774)

216729	Croatian speaks through phraseology	5	30/15/0
250755	Discourse of Journalism and Mass Media	5	15/30/0
#194	Ethics of Communication	4	15/30/0
#1668	Foreign language learning	4	30/0/0
51690	Foundations of Cognitive Linguistics	5	30/15/0
35899	General Linguistics	5	30/30/0
36733	Information and communication theory	3	30/0/0
80856	Introduction to Semiology	5	30/15/0
160771	Word and sentence prosody	4	15/30/0

## 6. semester

### Mandatory courses - in 4th and 6th semester choose a total of 17 ECTS credits (3654)

#5757	Hearing and speech	6	30/0/30
51310	Linguistics of speech	5	60/0/0
51321	Rhetoric	6	30/30/0

### Internal elective courses - choose a min. of 27 ECTS credits during course of study - from 1st to 6th semester choose a min. of 27 ECTS credits (16774)

37164	Applied Linguistics	5	30/30/0
#35153	Coarticulation	4	15/30/0
#170	History of Linguistic Theories	4	30/15/0
36469	Introduction to Croatian as a Mother Tongue and Foreign Language	5	30/30/0
170262	Introduction to Psycholinguistics	5	30/15/0
250730	Language of Dramatic Texts	5	30/15/0
#168	Languages of the World	4	30/15/0
37171	Linguistics and Its Dialects	5	30/15/0
#35155	Neurophonetics	4	30/15/0
36734	Non-verbal communication	5	15/30/0
51306	Phonetics and phonology	3	30/0/0
#1172	Sociolinguistics	4	30/15/0
160763	Stylistic Concepts	5	30/15/0

# University graduate double major study Phonetics with Emphasis on Clinical Phonetics

## 1. semester

### Mandatory courses

117511	Audio technology	5	30/0/30
117510	Audiology and space perception	5	30/0/30

### Teacher education module - Core courses - during course of study choose 18 ECTS credits - choose 18 ECTS credits during course of study (11012)

120083	Didactics	6	30/30/0
120082	Educational psychology	6	30/30/0
120085	Systematic pedagogy	6	30/30/0

### Internal elective courses - during 1st, 2nd and 3rd semester take a min. of 3 ECTS credits - during 1st, 2nd, and 3rd semester take a min. of 3 ECTS credits (10659)

117501	Acoustic phonetics - seminar	5	0/30/0
117515	Methodology of scientific work	3	15/15/0
124278	Methodology of working on speech in electronic media	5	30/0/30
124277	Methods in teaching rhetoric	5	30/0/30
215530	Rhetorical Argumentation	6	30/30/0
117514	Speech production research	5	15/30/15
117516	Statistics	5	30/0/30

### Teacher education module - Elective courses - elective choice of a course (12627)

225408	Croatian Language for the Teacher	4	15/15/0
120099	Information Technology in Education	4	15/0/15
124278	Methodology of working on speech in electronic media	5	30/0/30
124277	Methods in teaching rhetoric	5	30/0/30
198896	Philosophy of Education - Studium Generale	4	30/0/0
120101	Public speaking for teachers	4	0/15/15

## 2. semester

### Mandatory courses

124281	Hearing disorders and methodology of hearing rehabilitation	5	30/0/30
160755	Methodology of the individual approach to the rehabilitation of hearing and speech	5	5/0/55
124275	Speech disorders and their rehabilitation methods	5	30/0/30

### Teacher education module - Core courses - during course of study choose 18 ECTS credits - choose 18 ECTS credits during course of study (11012)

120083	Didactics	6	30/30/0
120082	Educational psychology	6	30/30/0
120085	Systematic pedagogy	6	30/30/0

### Internal elective courses - during 1st, 2nd and 3rd semester take a min. of 3 ECTS credits - during 1st, 2nd, and 3rd semester take a min. of 3 ECTS credits (10659)

124280	Computer analysis and synthesis of speech	4	30/30/0
125406	History of rhetoric	5	15/30/0
125404	Methodology of phonetic care of voice and pronunciation (an individual approach)	5	15/0/30
124279	Psychoacoustics - seminar	5	0/30/0
170378	Rhetorical genres	5	0/30/30

### Teacher education module - Elective courses - elective choice of a course (12627)

120105	Evaluation of educational interventions	4	30/0/0
125404	Methodology of phonetic care of voice and pronunciation (an individual approach)	5	15/0/30
225407	Phonetic correction	4	15/15/0
170378	Rhetorical genres	5	0/30/30
225409	Sociology of education	4	30/30/0
120104	Speech production	4	0/15/15

### 3. semester

**Teacher education module - Core courses - during course of study choose 18 ECTS credits - choose 18 ECTS credits during course of study (11012)**

120083	Didactics	6	30/30/0
120082	Educational psychology	6	30/30/0
120085	Systematic pedagogy	6	30/30/0

**Internal elective courses - during 1st, 2nd and 3rd semester take a min. of 3 ECTS credits - during 1st, 2nd, and 3rd semester take a min. of 3 ECTS credits (10659)**

117501	Acoustic phonetics - seminar	5	0/30/0
117515	Methodology of scientific work	3	15/15/0
124278	Methodology of working on speech in electronic media	5	30/0/30
124277	Methods in teaching rhetoric	5	30/0/30
215530	Rhetorical Argumentation	6	30/30/0
117514	Speech production research	5	15/30/15
117516	Statistics	5	30/0/30

**Teacher education module - Elective courses - elective choice of a course (12627)**

225408	Croatian Language for the Teacher	4	15/15/0
120099	Information Technology in Education	4	15/0/15
124278	Methodology of working on speech in electronic media	5	30/0/30
124277	Methods in teaching rhetoric	5	30/0/30
198896	Philosophy of Education - Studium Generale	4	30/0/0
120101	Public speaking for teachers	4	0/15/15

## 4. semester

### Mandatory courses

124609	Master's Thesis for the Graduate Study of Phonetics	15	0/0/0
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### Teacher education module - Core courses - during course of study choose 18 ECTS credits - choose 18 ECTS credits during course of study (11012)

120083	Didactics	6	30/30/0
120082	Educational psychology	6	30/30/0
120085	Systematic pedagogy	6	30/30/0

### Teacher education module - Elective courses - elective choice of a course (12627)

120105	Evaluation of educational interventions	4	30/0/0
125404	Methodology of phonetic care of voice and pronunciation (an individual approach)	5	15/0/30
225407	Phonetic correction	4	15/15/0
170378	Rhetorical genres	5	0/30/30
225409	Sociology of education	4	30/30/0
120104	Speech production	4	0/15/15

# University graduate double major study

## Phonetics with Emphasis on Rhetoric

### 1. semester

#### Mandatory courses

215530	Rhetorical Argumentation	6	30/30/0
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#### Mandatory courses - in the first and/or 3 semester take a total of 10 ECTS credits - in first and/or 3rd semester take a total of 10 ECTS credits (15631)

124278	Methodology of working on speech in electronic media	5	30/0/30
124277	Methods in teaching rhetoric	5	30/0/30

#### Teacher education module - Core courses - during course of study choose 18 ECTS credits - choose 18 ECTS credits during course of study (11012)

120083	Didactics	6	30/30/0
120082	Educational psychology	6	30/30/0
120085	Systematic pedagogy	6	30/30/0

#### Internal elective courses - during 1st, 2nd and 3rd semester take a min. of 3 ECTS credits - during 1st, 2nd, and 3rd semester take a min. of 3 ECTS credits (11925)

117501	Acoustic phonetics - seminar	5	0/30/0
117511	Audio technology	5	30/0/30
117510	Audiology and space perception	5	30/0/30
117515	Methodology of scientific work	3	15/15/0
117514	Speech production research	5	15/30/15
117516	Statistics	5	30/0/30

#### Teacher education module - Elective courses - elective choice of a course (12626)

225408	Croatian Language for the Teacher	4	15/15/0
120099	Information Technology in Education	4	15/0/15
198896	Philosophy of Education - Studium Generale	4	30/0/0
120101	Public speaking for teachers	4	0/15/15

## 2. semester

### Mandatory courses

125404	Methodology of phonetic care of voice and pronunciation (an individual approach)	5	15/0/30
170378	Rhetorical genres	5	0/30/30

### Teacher education module - Core courses - during course of study choose 18 ECTS credits - choose 18 ECTS credits during course of study (11012)

120083	Didactics	6	30/30/0
120082	Educational psychology	6	30/30/0
120085	Systematic pedagogy	6	30/30/0

### Internal elective courses - during 1st, 2nd and 3rd semester take a min. of 3 ECTS credits - during 1st, 2nd, and 3rd semester take a min. of 3 ECTS credits (11925)

124280	Computer analysis and synthesis of speech	4	30/30/0
124281	Hearing disorders and methodology of hearing rehabilitation	5	30/0/30
125406	History of rhetoric	5	15/30/0
124279	Psychoacoustics - seminar	5	0/30/0
124275	Speech disorders and their rehabilitation methods	5	30/0/30

### Teacher education module - Elective courses - elective choice of a course (12626)

120105	Evaluation of educational interventions	4	30/0/0
124281	Hearing disorders and methodology of hearing rehabilitation	5	30/0/30
225407	Phonetic correction	4	15/15/0
225409	Sociology of education	4	30/30/0
124275	Speech disorders and their rehabilitation methods	5	30/0/30
120104	Speech production	4	0/15/15

### 3. semester

**Mandatory courses - in the first and/or 3 semester take a total of 10 ECTS credits - in first and/or 3rd semester take a total of 10 ECTS credits (15631)**

124278	Methodology of working on speech in electronic media	5	30/0/30
124277	Methods in teaching rhetoric	5	30/0/30

**Teacher education module - Core courses - during course of study choose 18 ECTS credits - choose 18 ECTS credits during course of study (11012)**

120083	Didactics	6	30/30/0
120082	Educational psychology	6	30/30/0
120085	Systematic pedagogy	6	30/30/0

**Internal elective courses - during 1st, 2nd and 3rd semester take a min. of 3 ECTS credits - during 1st, 2nd, and 3rd semester take a min. of 3 ECTS credits (11925)**

117501	Acoustic phonetics - seminar	5	0/30/0
117511	Audio technology	5	30/0/30
117510	Audiology and space perception	5	30/0/30
117515	Methodology of scientific work	3	15/15/0
117514	Speech production research	5	15/30/15
117516	Statistics	5	30/0/30

**Teacher education module - Elective courses - elective choice of a course (12626)**

225408	Croatian Language for the Teacher	4	15/15/0
120099	Information Technology in Education	4	15/0/15
198896	Philosophy of Education - Studium Generale	4	30/0/0
120101	Public speaking for teachers	4	0/15/15

#### 4. semester

##### Mandatory courses

124609	Master's Thesis for the Graduate Study of Phonetics	15	0/0/0
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##### Teacher education module - Core courses - during course of study choose 18 ECTS credits - choose 18 ECTS credits during course of study (11012)

120083	Didactics	6	30/30/0
120082	Educational psychology	6	30/30/0
120085	Systematic pedagogy	6	30/30/0

##### Teacher education module - Elective courses - elective choice of a course (12626)

120105	Evaluation of educational interventions	4	30/0/0
124281	Hearing disorders and methodology of hearing rehabilitation	5	30/0/30
225407	Phonetic correction	4	15/15/0
225409	Sociology of education	4	30/30/0
124275	Speech disorders and their rehabilitation methods	5	30/0/30
120104	Speech production	4	0/15/15

# University graduate double major study

## Phonetics with Emphasis on Theoretical and Experimental Phonetics

### 1. semester

#### Mandatory courses

117501	Acoustic phonetics - seminar	5	0/30/0
117515	Methodology of scientific work	3	15/15/0
117516	Statistics	5	30/0/30

#### Internal elective courses - during 1st, 2nd and 3rd semester take a min. of 18 ECTS credits - during 1st, 2nd, and 3rd semester take a min. of 18 ECTS credits (10761)

117511	Audio technology	5	30/0/30
117510	Audiology and space perception	5	30/0/30
124278	Methodology of working on speech in electronic media	5	30/0/30
124277	Methods in teaching rhetoric	5	30/0/30
215530	Rhetorical Argumentation	6	30/30/0

## 2. semester

### Mandatory courses

124280	Computer analysis and synthesis of speech	4	30/30/0
124279	Psychoacoustics - seminar	5	0/30/0

### Internal elective courses - during 1st, 2nd and 3rd semester take a min. of 18 ECTS credits - during 1st, 2nd, and 3rd semester take a min. of 18 ECTS credits (10761)

124281	Hearing disorders and methodology of hearing rehabilitation	5	30/0/30
125406	History of rhetoric	5	15/30/0
125404	Methodology of phonetic care of voice and pronunciation (an individual approach)	5	15/0/30
170378	Rhetorical genres	5	0/30/30
124275	Speech disorders and their rehabilitation methods	5	30/0/30

### 3. semester

#### Mandatory courses

117514 Speech production research 5 15/30/15

#### Internal elective courses - during 1st, 2nd and 3rd semester take a min. of 18 ECTS credits - during 1st, 2nd, and 3rd semester take a min. of 18 ECTS credits (10761)

117511 Audio technology 5 30/0/30  
117510 Audiology and space perception 5 30/0/30  
124278 Methodology of working on speech in electronic media 5 30/0/30  
124277 Methods in teaching rhetoric 5 30/0/30  
215530 Rhetorical Argumentation 6 30/30/0

## 4. semester

### Mandatory courses

124609 Master's Thesis for the Graduate Study of Phonetics

15 0/0/0

## **Reformed programmes**

# University undergraduate double major study Phonetics

## 1. semester

### Mandatory courses

#918	Acoustic phonetics	4	60/0/0
#35146	Articulatory phonetics	5	30/15/0
39622	Physical Education 1	0	0/0/30
#34661	Speech excercises 1	2	0/0/30

### Foreign language 1 - choose at least 2 ECTS credits (#48374)

#1944	English for Phonetics 1	2	0/30/0
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### Elective courses - semesters 1-6 select at least 8 ECTS (#48380)

#1668	Foreign language learning	4	30/0/0
36733	Information and communication theory	3	30/0/0
160771	Word and sentence prosody	4	15/30/0

### Open elective courses - semesters 1-6 select at least 15 ECTS (#47933)

#### Courses from this department

#1668	Foreign language learning	4	30/0/0
36733	Information and communication theory	3	30/0/0
160771	Word and sentence prosody	4	15/30/0

#### Courses from other departments

Number of courses: 141

## 2. semester

### Mandatory courses

#1658	Phonetic transcription	5	15/30/15
39624	Physical Education 2	0	0/0/30
#1659	Speech and audio technology	5	15/15/30

### Elective courses - semesters 1-6 select at least 8 ECTS (#48380)

#35153	Coarticulation	4	15/30/0
#35155	Neurophonetics	4	30/15/0
51306	Phonetics and phonology	3	30/0/0

### Language skills 2 - choose at least 2 ECTS credits (#48870)

#1945	English for Phonetics 2	2	0/30/0
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### Open elective courses - semesters 1-6 select at least 15 ECTS (#47933)

#### Courses from this department

#35153	Coarticulation	4	15/30/0
#35155	Neurophonetics	4	30/15/0
51306	Phonetics and phonology	3	30/0/0
225465	Public speaking skills	4	15/15/0

#### Courses from other departments

Number of courses: 147

### 3. semester

#### Mandatory courses

#1934	Hearing and listening	5	45/0/15
#1661	Orthoepy of Croatian language	4	15/15/15
50927	Physical Education 3	0	0/0/30
#1662	Speech and language	3	30/15/0

#### Elective courses - semesters 1-6 select at least 8 ECTS (#48380)

#1668	Foreign language learning	4	30/0/0
36733	Information and communication theory	3	30/0/0
160771	Word and sentence prosody	4	15/30/0

#### Open elective courses - semesters 1-6 select at least 15 ECTS (#47933)

##### Courses from this department

#1668	Foreign language learning	4	30/0/0
36733	Information and communication theory	3	30/0/0
160771	Word and sentence prosody	4	15/30/0

##### Courses from other departments

Number of courses: 141

## 4. semester

### Mandatory courses

50932	Physical Education 4	0	0/0/30
#34662	Speech perception	5	30/0/15
#35376	Speech prosody	5	45/0/15

### Elective courses - semesters 1-6 select at least 8 ECTS (#48380)

#35153	Coarticulation	4	15/30/0
#35155	Neurophonetics	4	30/15/0
51306	Phonetics and phonology	3	30/0/0

### Open elective courses - semesters 1-6 select at least 15 ECTS (#47933)

#### Courses from this department

#35153	Coarticulation	4	15/30/0
#35155	Neurophonetics	4	30/15/0
51306	Phonetics and phonology	3	30/0/0
225465	Public speaking skills	4	15/15/0

#### Courses from other departments

Number of courses: 147

## 5. semester

### Mandatory courses

51614	Speech development	5	30/30/0
#1663	Voice quality	4	30/0/15

### Elective courses - semesters 1-6 select at least 8 ECTS (#48380)

#1668	Foreign language learning	4	30/0/0
36733	Information and communication theory	3	30/0/0
160771	Word and sentence prosody	4	15/30/0

### Open elective courses - semesters 1-6 select at least 15 ECTS (#47933)

#### Courses from this department

#1668	Foreign language learning	4	30/0/0
36733	Information and communication theory	3	30/0/0
160771	Word and sentence prosody	4	15/30/0

#### Courses from other departments

Number of courses: 141

## 6. semester

### Mandatory courses

#2007	Final exam	2	15/0/0
#1660	Rhetoric	4	30/30/0
#35373	Speech excercises 2	2	0/15/15
225463	Verbotonal theory	3	30/0/0

### Elective courses - semesters 1-6 select at least 8 ECTS (#48380)

#35153	Coarticulation	4	15/30/0
#35155	Neurophonetics	4	30/15/0
51306	Phonetics and phonology	3	30/0/0

### Open elective courses - semesters 1-6 select at least 15 ECTS (#47933)

#### Courses from this department

#35153	Coarticulation	4	15/30/0
#35155	Neurophonetics	4	30/15/0
51306	Phonetics and phonology	3	30/0/0
225465	Public speaking skills	4	15/15/0

#### Courses from other departments

Number of courses: 147



## **Courses**

# Acoustic phonetics

<b>Name</b>	Acoustic phonetics
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	4
<b>ID</b>	#918
<b>Semesters</b>	Winter
<b>Teachers</b>	Marko Liker, PhD, Associate Professor (primary, L) Ana Vidović Zorić, PhD, Assistant Professor (L)
<b>Hours</b>	Lectures 60
<b>Prerequisites</b>	None
<b>Goal</b>	The aim of this course is to define and explain the basic parameters of the acoustic analysis of speech and different types of visualizations of the speech signal. Acoustic parameters for the analysis of Croatian sounds are demonstrated via spectrograms and spectral slices.
<b>Teaching methods</b>	Lectures
<b>Assessment methods</b>	Optional continuous evaluation, written and oral exam

## Learning outcomes

1. Explain physical properties of sound and its propagation.
2. Explain the parameters of speech sound quantification.
3. Explain visual representations of sound and use those visualisations for the acoustic description of speech sounds.
4. Identify Croatian speech sounds in the acoustic signal.
5. Explain acoustic characteristic of Croatian speech sounds.

## Content

1. Introduction, objectives, learning outcomes. The definition of acoustic phonetics.
2. The development of acoustic phonetics, the nature of sound, sound source, medium, receptor, hearing.
3. Physical dimensions of sound, frequency, wave length, speed of sound, sound pressure, intensity, power, decibel.
4. Analysis and visualisation of sound: oscillogram, spectrogram, spectral slice. Acoustic filters, pure tone, complex sound, harmonic sound, noise.
5. Fundamental frequency, vocal tract resonance, speech production and acoustics (source-filter theory).
6. Introduction to speech sound. Continuous assessment 1.
7. Speech sound: vowels
8. Speech sound: stops
9. Speech sound: fricatives
10. Speech sound: affricates
11. Speech sound: nasals
12. Speech sound: approximants and trills
13. Speech sound: temporal organisation of speech
14. Speech sound: temporal organisation of speech 2. Continuous assessment 2.
15. Conclusion.

## Acoustic phonetics - seminar

<b>Name</b>	Acoustic phonetics - seminar
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	5
<b>ID</b>	117501
<b>Semesters</b>	Winter
<b>Teachers</b>	Marko Liker, PhD, Associate Professor (primary, S) Veno Volenec, PhD, Lecturer (S)
<b>Hours</b>	Seminar 30
<b>Prerequisites</b>	None
<b>Goal</b>	The aim of this course is to enable students to perform the acoustic analysis of Croatian sounds, explain their choice of measurement parameters and discuss the results of their analysis in light of normative data and practical applications.
<b>Teaching methods</b>	Seminars
<b>Assessment methods</b>	Seminar assignments and oral exam

### Learning outcomes

1. Plan and produce various acoustic analyses of speech sounds depending on the application of the results
2. Present the results and the conclusions of the acoustic analysis
3. Critically assess the parameters for the acoustic analysis of speech sounds
4. Argue the application of acoustic analysis in the phonetic sciences

### Content

1. Course introduction: aim, responsibilities, and evaluation
2. Acoustic analysis of vowels: discussion of the relevant parameters and demonstration
3. Acoustic analysis of vowels: supervised seminar assignments
4. Acoustic analysis of stops: discussion of the relevant parameters and demonstration
5. Acoustic analysis of stops: supervised seminar assignments
6. Acoustic analysis of coarticulation: discussion of the locus equation
7. Acoustic analysis of coarticulation: locus equation calculation
8. Acoustic analysis of fricatives: discussion of the relevant parameters and demonstration
9. Acoustic analysis of fricatives: supervised seminar assignments
10. Acoustic analysis of affricates: discussion of the relevant parameters and demonstration
11. Acoustic analysis of affricates: supervised seminar assignments
12. Acoustic analysis of approximants: discussion of the relevant parameters and demonstration
13. Acoustic analysis of approximants: supervised seminar assignments
14. Student assignments evaluation; preparations for individual oral exams
15. Course conclusion and application of course outcomes.

# Articulatory phonetics

<b>Name</b>	Articulatory phonetics	
<b>Organizational unit</b>	Department of Phonetics	
<b>ECTS credits</b>	5	
<b>ID</b>	#1657	
<b>Semesters</b>	Winter	
<b>Teachers</b>	Marko Liker, PhD, Associate Professor (primary, L) Ines Carović, PhD, Assistant Professor (S)	
<b>Hours</b>	Lectures	30
	Seminar	15

**Prerequisites** None

**Goal** The aim of this course is to define and explain the basic notions of articulatory phonetics, to provide a comprehensive articulatory description of Croatian sounds, and to compare Croatian speech sounds to sounds from other languages when necessary. The practical part of the course includes demonstrations of articulatory processes via instrumental kinematic techniques (e.g. EPG, UTI).

**Teaching methods** Lectures, seminars

**Assessment methods** Optional continuous evaluation, written and oral exam

## Learning outcomes

1. 1. Identify basic elements of the central nervous system and explain their role in speech control.
2. 2. Explain the basic anatomy and physiology of respiration and initiation processes in speech production.
3. 3. Explain the basic anatomy and physiology of phonation and phonatory processes in speech production.
4. 4. Explain the anatomy and physiology of articulation and articulatory processes in speech production.
5. 5. Explain the articulation of Croatian speech sounds.
6. 6. Analyse the structure of the syllable.

## Content

1. L: Introduction to seminar obligations and objectives. Introduction.
2. L: Definition of speech  
S: Introduction to the techniques for the analysis of speech kinematics
3. L: Central nervous system and speech control  
S: Kinematic techniques: imaging techniques
4. L: Central nervous system and speech control  
S: Kinematic techniques: palatographic techniques
5. L: Airstream initiation (respiratory system)  
S: Practical demonstration of kinematic recording of speech production.
6. L: Phonation (basic anatomy)  
S: Continual assessment 1
7. L: Phonation (basic physiology)  
S: Kinematic recording of speech production.
8. L: Articulation (basic anatomy)  
S: Kinematic recording of speech production.
9. L: Articulation (basic anatomy)  
S: Continual assessment 2
10. L: Articulation (basic physiology)  
S: Kinematic data visualization.
11. L: Articulation (basic physiology)

- |     |  |           |             |
|-----|--|-----------|-------------|
|     | S: Kinematic data visualization – individual assignments |           |             |
| 12. | L: Articulation  | (Croatian | consonants) |
|     | S: Kinematic data visualization – individual assignments |           |             |
| 13. | L: Articulation  | (Croatian | vowels)     |
|     | S: Kinematic data visualization – individual assignments |           |             |
| 14. | L:   |           | Syllable    |
|     | S: Kinematic data visualization – individual assignments |           |             |
| 15. | L: Course  |           | conclusion  |
|     | S: Continual assessment 3                                |           |             |

# Audio technology

<b>Name</b>	Audio technology
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	5
<b>ID</b>	117511
<b>Semesters</b>	Winter
<b>Teachers</b>	Diana Tomić, PhD, Assistant Professor (primary, L, E) Davor Šušković, PhD (L, E) Ivana Šušković (E) Marijana Tuta Dujmović (E)
<b>Hours</b>	Lectures 30 Exercises 30
<b>Prerequisites</b>	None
<b>Goal</b>	The aim of the course is to introduce students to instrumental devices for speech analysis, psychoacoustic phenomena in the context of hearing aids and hearing rehabilitation, and to enable them to recommend hearing aids, advise and guide rehabilitation processes for different hearing aid users.
<b>Teaching methods</b>	Lectures, exercises, mixed e-learning, project assignments
<b>Assessment methods</b>	Continuous assessment which includes attendance, preparation for practical exercises, homework, research paper presentation, written and oral exams

## Learning outcomes

1. Explain technical characteristics of different types of filters and their application in different devices.
2. Describe the historical development of hearing aids.
3. Categorize hearing aids.
4. Explain the difference between analog and digital technology in hearing devices and explain the parts and functions of cochlear and other implants.
5. Select hearing aid and determine optimal hearing area.
6. Apply results of scientific studies in hearing rehabilitation.

## Content

1. Introduction
2. Revision – acoustics; speech perception. Basic concepts - psychoacoustics, electroacoustics.
3. Signals; introduction to electronics and electroacoustics; electroacoustic devices – filter banks
4. Use of electroacoustic devices. Practical exercises.
5. Historical development of hearing aids; contemporary hearing aids; verification process
6. Study visit to the hearing aids provider – selection and fitting
7. Selection of hearing aids, diagnostic procedures – interview with a phonetician and study visit to SUVAG Polyclinic
8. Users experience – guest – hearing aid and/or cochlear implant users
9. Cochlear implant – definition, sound simulation, technological development, Croatian CI story, implantation criteria, diagnostic procedures, pre and post-operative rehabilitation, etc.; other types of implants: ABI, AMI, BAHA, etc.
10. Study visit – Cochlear implant and new technologies Center (fitting)
11. Coding strategies and future possibilities
12. Student presentations and discussion about contemporary scientific findings and their application to hearing rehabilitation
13. Projects – presentations of completed projects for students to use in rehabilitation
14. Projects – presentations of new projects
15. Evaluation; continuous assessment



## Audiology and space perception

<b>Name</b>	Audiology and space perception	
<b>Organizational unit</b>	Department of Phonetics	
<b>ECTS credits</b>	5	
<b>ID</b>	117510	
<b>Semesters</b>	Winter	
<b>Teachers</b>	Arnalda Dobrić, PhD, Assistant Professor (primary, L, E) Nadja Runjić (L, E)	
<b>Hours</b>	Lectures	30
	Exercies	30
<b>Prerequisites</b>	None	
<b>Goal</b>	The aims of the course are to show the wholeness of communication, give basic knowledge on space perception system as the eldest of sensory systems (and therefore others sensory systems originated from it), show the role of the audiology in the tests of hearing functions and enable students to understand the results of different diagnostic procedures.	
<b>Teaching methods</b>	Lectures and exercises	
<b>Assessment methods</b>	Oral exam	

### Learning outcomes

1. Illustrate and interpret the wholeness of communication
2. Explain the development of the space sense through evolution and correlate it with the development of other senses
3. Explain the correlation of audiology and hearing tests
4. Analyze different diagnostic procedures in hearing tests
5. Assess rehabilitation possibilities in light of the test results
6. Recommend further steps in medical procedures

### Content

1. Lecture – introductory lecture: space perception in hearing and speech; audiology; initial knowledge assessment  
Exercise – acoumetry
2. Lecture – grammar of space – space sensory system; acoumetry  
Exercise – examples of space perception in literature; acoumetry
3. Lecture – sense of hearing in the system of space perception; pure tone audiometry  
Exercise – pure tone audiometry
4. Lecture – verbotonal audiometry  
Exercise – acoumetry and pure tone audiometry
5. Lecture – senses of sight, hearing, balance, touch and proprioception; speech audiometry (words); revision: sense of hearing; acoumetry, pure tone audiometry, verbotonal audiometry  
Exercise – acoumetry and pure tone audiometry
6. Lecture – speech audiometry (sentences); objective audiometry; revision: space perception  
Exercise – pure tone and verbotonal audiometry
7. Lecture – vestibular sense; electronystagmography  
Exercise – non-instrumental and instrumental testing of vestibular sense; electronystagmography; stabilometry
8. Lecture – otoacoustic emissions; evoked potentials  
Exercise – speech audiometry; auditory evoked potentials
9. Lecture – electroencephalography; cortical cartography  
Exercise – audiometry; encephalography
10. Lecture – cortical cartography; revision: speech audiometry, objective audiometry

- Exercise – audiometry, cortical cartography
11. Lecture – basic characteristics of hearing; optimal hearing range; transfer  
Exercise – audiometry; visuals evoked potentials
  12. Lecture – cochlear implant; transfer  
Exercise – diagnostics of optimal hearing range; diagnostics of space perception
  13. Lecture – neurological diagnostics; neuroimaging methods; revision: basic characteristics of hearing; optimal hearing range; cochlear implant  
Exercise – audiometry; diagnostics of space perception
  14. Lecture – brain plasticity; neuroimaging methods; revision: neurophysiological diagnostics  
Exercise – neuroimaging methods; diagnostics of space perception
  15. Final lecture – space perception and audiology – new approaches  
Final exercise – acoumetry, subjective and objective audiometry; diagnostics of space perception

# Coarticulation

<b>Name</b>	Coarticulation	
<b>Organizational unit</b>	Department of Phonetics	
<b>ECTS credits</b>	4	
<b>ID</b>	#1665	
<b>Semesters</b>	Summer	
<b>Teachers</b>	Marko Liker, PhD, Associate Professor (primary, L, S)	
<b>Hours</b>	Lectures	15
	Seminar	30
<b>Prerequisites</b>	None	
<b>Goal</b>	The aim of this course is to analyze various approaches to the definition of coarticulation within different theories and models of coarticulation, to discuss biomechanically universal vs. language-specific aspects of coarticulation, and to explain the implications of coarticulatory processes in clinical phonetics.	
<b>Teaching methods</b>	Lectures and seminars	
<b>Assessment methods</b>	Seminar assignments and oral exam	

## Learning outcomes

1. Discuss current definitions of coarticulation.
2. Explain coarticulation within different theoretical frameworks and models.
3. Discuss coarticulatory pressure and coarticulatory resistance, as well as the direction and range of coarticulation.
4. Discuss coarticulatory processes at different articulatory sub-systems (laryngeal, labial, lingual).
5. Explain the relationship between basic units of speech and global kinematic patterns in speech.

## Content

1. L: Introduction.  
S: Seminar assignments and work groups.
2. L: Definitions of coarticulation.  
S: Examples and illustrations of coarticulatory processes. Seminar assignments for each work group.
3. L: Origins of the term coarticulation: historical perspective.  
S: Early notions of coarticulation.
4. L: Origins of the term coarticulation: the cause of coarticulation.  
S: Why does coarticulation exist?
5. L: Coarticulation and speech economy.  
S: Lindblom's adaptive variability (hyper and hypo speech).
6. L: Coarticulation and phonological distinctive features.  
S: Keating's Window model of coarticulation.
7. L: Coarticulation and articulatory gestures.  
S: Recasens' DAC model.
8. L: Coarticulatory dynamics.  
S: The problem of the direction and the range of coarticulation.
9. L: Consonant coarticulation.  
S: Coarticulatory resistance of consonants.
10. L: Vowel coarticulation.  
S: Coarticulatory resistance of vowels.
11. L: Articulatory sub-systems and coarticulation.  
S: Laryngeal sub-system.
12. L: Articulatory sub-systems and coarticulation.  
S: Labial sub-system.
13. L: Basic units of speech and global kinematic patterns in speech.

- S: How relevant are global kinematic patterns for the study of coarticulation?.
14. L: Coarticulation and applied phonetics.  
S: Coarticulatory processes in atypical speech
15. L: Conclusion.  
S: Evaluation of students' assignments.

# Computer analysis and synthesis of speech

<b>Name</b>	Computer analysis and synthesis of speech	
<b>Organizational unit</b>	Department of Phonetics	
<b>ECTS credits</b>	4	
<b>ID</b>	124280	
<b>Semesters</b>	Summer	
<b>Teachers</b>	Nikolaj Lazić, PhD, Full Professor (primary, L, S)	
<b>Hours</b>	Lectures	30
	Seminar	30

**Prerequisites** None

**Goal** The aim of the course is to provide an overview of speech analysis and synthesis throughout history and explain the techniques required for speech synthesis and speech recognition. Modern approaches to the field of speech synthesis and speech recognition are explained in detail and different approaches to solving the problems of speech synthesis and recognition are presented.

**Teaching methods** Lectures and seminars

**Assessment methods** Presentation, oral exam

## Learning outcomes

1. Compare and practically derive different approaches to speech synthesis and automatic speech recognition
2. Manage the transmission, recording and reproduction of speech in various media
3. Use neural networks in speech analysis
4. Use formant synthesizers
5. Know how to choose the type of synthesis
6. Know how to choose the method of sound analysis

## Content

1. Introductory lecture.
2. An overview of the field of speech analysis and synthesis.
3. Speech analysis tools
4. Speech analysis tools
5. Neural networks
6. Neural networks
7. The use of neural networks in speech recognition
8. The use of neural networks in speech recognition
9. Practical application of neural networks
10. Practical application of neural networks
11. Formant synthesis
12. Formant synthesis
13. Sound analysis and data preparation for formant synthesis
14. Sound analysis and data preparation for formant synthesis
15. Presentation of results

## Final exam

<b>Name</b>	Final exam
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	2
<b>ID</b>	#2007
<b>Semesters</b>	Summer
<b>Teachers</b>	Marko Liker, PhD, Associate Professor (primary, L) Gabrijela Kišiček, PhD, Associate Professor (primary, L) Elenmari Pletikos Olof, PhD, Associate Professor (primary, L) Jelena Vlašić Duić, PhD, Full Professor (primary, L) Ines Carović, PhD, Assistant Professor (primary, L) Ana Vidović Zorić, PhD, Assistant Professor (primary, L) Arnalda Dobrić, PhD, Assistant Professor (primary, L) Diana Tomić, PhD, Assistant Professor (primary, L) Iva Bašić, PhD, Assistant Professor (primary, L)
<b>Hours</b>	Lectures 15
<b>Prerequisites</b>	None
<b>Goal</b>	
<b>Teaching methods</b>	
<b>Assessment methods</b>	
<b>Learning outcomes</b>	
<b>Content</b>	

# Foreign language learning

<b>Name</b>	Foreign language learning
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	4
<b>ID</b>	#1668
<b>Semesters</b>	Winter
<b>Teachers</b>	Ines Carović, PhD, Assistant Professor (primary, L)
<b>Hours</b>	Lectures 30
<b>Prerequisites</b>	None

**Goal** The aim of the course is to inform students about modern methods of teaching foreign languages (L2), their development and the influences of linguistics and other related sciences on the methodology of teaching L2. An overview of theories and principles of learning and factors influencing learning (motivation, receiving information, memory, use of stored information) is given, and these principles are considered in the case of learning a L2. The principles of teaching and different models of L2 teaching theory are considered. Finally, an overview of the development of modern methods of L2 languages is given, which is related to the development of linguistics and its impact on teaching and learning.

**Teaching methods** Direct instructions: teaching through lectures, class discussion

**Assessment methods** Class attendance, preliminary exam (2 parts), written exam

## Learning outcomes

1. Explain the types of multilingualism and the criteria for determining each type.
2. Describe the cognitive organization and speech production of multilingual speakers.
3. List the cognitive and social factors in learning of speech in L2.
4. Explain theoretical approaches of multilingualism and learning of speech in L2.
5. Connect speech development and multilingualism.
6. Explain the perception of speech in L2.

## Content

1. Learning: classical conditioning, operant conditioning, social learning theories, cognitive learning theories
2. Memory 1: information retention time, (sensory, short-term, long-term), types of long-term memory, declarative and procedural memory (episodic and semantic)
3. Memory 2: information processing and memory, brain lateralization and memory, forgetting, memory disorders, memory and age, memory and context
4. Learning a L2: theories and models
5. Methods of L2 learning until the end of the 19th century
6. Reform of L2 learning in the 19th century: direct methods
7. The influence of structuralism and behaviorism on L2 teaching
8. Theoretical views on Chomsky's language and its influence on L2 teaching
9. Influence of sociolinguistics, contrastive analysis and applied linguistics on L2 teaching
10. Audio-visual methods
11. Illustration of learning a foreign language AVGS (audio-visual global-structural) method
12. Illustration of foreign language learning AVGS (audio-visual global-structural) method
13. Principles of AVGS methodology and their development
14. Modern methods of teaching L2
15. Bilingualism

# General Phonetics

<b>Name</b>	General Phonetics
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	5
<b>ID</b>	51304
<b>Semesters</b>	Winter
<b>Teachers</b>	Elenmari Pletikos Olof, PhD, Associate Professor (primary, L, P)
<b>Hours</b>	Lectures 45 Practicum 15
<b>Prerequisites</b>	To pass course it is necessary to attend course Acoustic phonetics
<b>Goal</b>	The aim of this course is to introduce students to phonetics as a science of speech, to determine the areas, methods and purpose of the science. The course provides basic knowledge about speech and introduces to the scientific way of studying speech.
<b>Teaching methods</b>	Lectures, exercises, e-learning (Omega)
<b>Assessment methods</b>	Continuous evaluation, written and oral exam. During the semester, students' work is continuously monitored and evaluated: attending lectures, participation in exercises, short assignments (10%), first exam (30%), second exam (30%), and third exam (30%). Students who earn 61% on the basis of continuous monitoring and are exempt from taking the written exam have to take an oral exam in which the learning outcomes are assessed. Grading: The grade is formed according to the percentage based on continuous monitoring: 61–70% – sufficient (2); 71–80% – good (3); 81–90% – very good (4); 91–100% – excellent (5). The grade can be corrected depending on the results of the oral exam. Students who have earned 40–60% during the semester must take both the written and the oral exam. Students who earned less than 40% in continuous evaluation have to re-enroll in the course.

## Learning outcomes

1. Define and explain some basic phonetic terms: phonetics, speech, archetypical speech, semiotics in speech and language, voice, text, prosody, tone, spectral characteristics, timbre, modulation, tempo, rhythm, pause, expressiveness, fluency, assimilation, adaptation, speech perception
2. Segment speech into phones, phonemes, syllables, prosodic words, intonation units, utterances, paragraphs, and explain their prosodic characteristics
3. Apply a computer program in the analysis of speech sound and measuring some characteristics of the basic tone, duration and formants
4. Analyze the acoustic properties of word prosody and intonation units
5. Explain the relationships of acoustic elements of speech (fundamental frequency, duration, intensity, spectral form) and perceptual categories (tone, loudness, timbre)
6. List the prosodic elements and explain their influence on speech expressiveness and fluency

## Content

1. Definition of phonetics as a speech science, definitions of speech, basic speech units, speech as communication, archetypal speech, speech functions, speech parts: layers and segments; initial recording of the students
2. Semiotics and speech and language signs; basic acoustic elements of speech, acoustic properties that form the variability of speech sounds: spectral shape, spectral composition, changes in sound over time, intensity, duration, and fundamental frequency; linguistic and paralinguistic prosody; initial recording of students
3. Biological fundamentals of speech; evolution of language and speech; segmentation of recorded speech in Praat

4. Neurological basis of speech, representation of language and speech in the brain; language and speech disorders: aphasia, dysarthria, apraxia; methods of brain research; listening and assessing speech fluency, expressiveness, voice and pronunciation
5. Analysis of fundamental frequency, jitter, shimmer, and HNR in recorded speech. Listening and assessing speech fluency, expressiveness, voice and pronunciation. Written exam 1
6. Speech prosody: intonation; intonation units: beginning, focus and ending; prominence; types of intonation nuclei
7. Speech prosody: pause, rhythm, speech modulations
8. Speech prosody: timbre; spectral shape and timbre; open quotient; parameters of acoustic analysis and their relation to perception; formants of Croatian vowels
9. Speech prosody: loudness and tempo; formants of Croatian vowels
10. Speech segments: paragraph, utterance, intonation unit, prosodic word, syllable, phone; written exam 2
11. Prosodic word and accent; language typology concerning accent system: stress, pitch accent and tone; standard and dialectal variants of Croatian accents; acoustic properties of Croatian accents
12. Syllable: onset, nucleus and coda; phones: relations of phones and phonemes, assimilation and adaptation
13. Speech perception; the relationship between acoustic and psychoacoustic parameters of sounds; multimodal speech perception, McGurk effect; categorical perception: identification and discrimination tests
14. Redundant acoustic parameters of phones: inherent duration, tone and intensity; written exam 3
15. Evaluation of course and teacher

# Hearing and listening

<b>Name</b>	Hearing and listening	
<b>Organizational unit</b>	Department of Phonetics	
<b>ECTS credits</b>	5	
<b>ID</b>	#1934	
<b>Semesters</b>	Winter	
<b>Teachers</b>	Arnalda Dobrić, PhD, Assistant Professor (primary, L, SE) Ivana Aras, PhD (L, SE)	
<b>Hours</b>	Lectures	45
	Speech exercises	15

**Prerequisites** None

**Goal** The aim of the course is to enable students to understand anatomical and physiological mechanisms of hearing and speech as well as to give them basic information on hearing and speech problems, and possibilities of their testing and treatment.

**Teaching methods** Lectures, exercises, combined e-learning, homework, on-site exercises

**Assessment methods** Oral and written tests and exams

## Learning outcomes

1. Explain basic anatomy of the outer, middle and inner ear.
2. Explain basic anatomy and physiology of the hearing mechanisms and processing.
3. Identify objective and subjective audiological diagnostic procedures.

## Content

1. The organ of hearing (peripheral part and the auditory pathway); outer ear – anatomy, physiology, pathology
2. Middle ear – ear drum; anatomy and physiology of the middle ear, middle ear pathology; inner ear – anatomy, physiology
3. Inner ear pathology, anatomy, physiology and pathology of the auditory pathway, anatomy of the central auditory mechanisms
4. Physiology and pathology of the central auditory mechanisms; 1st test (anatomy, physiology, pathology)
5. Diagnostics – part 1 & 2
6. Diagnostics – part 3, exercises (acoumetry)
7. Exercises – audiometry 1 & 2; audiometry 3 & 4
8. The basics of hearing and speech rehabilitation – rehabilitation methods and hearing aids; the verbotonal method in rehabilitation
9. Group rehabilitation – educational programme, music and rhythmic stimulation; individual rehabilitation; rehabilitation of children of different ages; story telling
10. 2nd test; lecture on phoniatrics
11. On-site exercises – SUVAG Polyclinic: diagnostics, kindergarten
12. On-site exercises – SUVAG Polyclinic: elementary school; speech pathology 1 – pathology in speech production; speech disfluency
13. Speech pathology 2 – articulatory and phonological problems in speech; speech pathology 3 – language problems in different syndromes (i.e. Down, Williams)
14. Speech pathology 4 – language and communication problems (SLI, ADHD, autistic spectrum, aphasia, dyslexia)
15. On-site exercises in Dnevni centar za rehabilitaciju Slava Raškaj in Rijeka or in Centar za odgoj i obrazovanje Slava Raškaj in Zagreb; final discussion – oral exam



# Hearing and speech

<b>Name</b>	Hearing and speech
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	6
<b>ID</b>	160829
<b>Semesters</b>	Summer
<b>Teachers</b>	Arnalda Dobrić, PhD, Assistant Professor (primary, L, SE) Ivana Aras, PhD (L) Elenmari Pletikos Olof, PhD, Associate Professor (L, SE)
<b>Hours</b>	Lectures 30 Speech exercises 30
<b>Prerequisites</b>	To pass course it is necessary to attend course Acoustic phonetics
<b>Goal</b>	The aim of the course is to enable students to understand anatomical and physiological mechanisms of hearing and speech as well as to give them basic information on hearing and speech problems, and possibilities of their testing and treatment.
<b>Teaching methods</b>	Lectures, exercises, combined e-learning, homework, on-site exercises
<b>Assessment methods</b>	Oral and written tests and exams

## Learning outcomes

1. Describe the basics of auditory and vestibular systems, from the peripheral to the central level as well as the mechanisms of hearing and speech
2. Understand different hearing and listening tests and correlate them with hearing pathology
3. Give basic description of the client's hearing status on the basis of the test results
4. List and describe rehabilitation procedures in the framework of the verbotonal method (VTM)
5. Describe the most frequent types of speech and hearing pathology
6. Use professional and scientific literature independently and effectively
7. Self-evaluate their interests and capabilities for further studies

## Content

1. The organ of hearing (peripheral part and the auditory pathway); outer ear – anatomy, physiology, pathology
2. Middle ear – ear drum; anatomy and physiology of the middle ear, middle ear pathology; inner ear – anatomy, physiology
3. Inner ear pathology, anatomy, physiology and pathology of the auditory pathway, anatomy of the central auditory mechanisms
4. Physiology and pathology of the central auditory mechanisms; 1st test (anatomy, physiology, pathology)
5. Diagnostics – part 1 & 2
6. Diagnostics – part 3, exercises (acoumetry)
7. Exercises – audiometry 1 & 2; audiometry 3 & 4
8. The basics of hearing and speech rehabilitation – rehabilitation methods and hearing aids; the verbotonal method in rehabilitation
9. Group rehabilitation – educational programme, music and rhythmic stimulation; individual rehabilitation; rehabilitation of children of different ages; story telling
10. 2nd test; lecture on phoniatics
11. On-site exercises – SUVAG Polyclinic: diagnostics, kindergarten
12. On-site exercises – SUVAG Polyclinic: elementary school; speech pathology 1 – pathology in speech production; speech disfluency
13. Speech pathology 2 – articulatory and phonological problems in speech; speech pathology 3 – language problems in different syndromes (i.e. Down, Williams)

14. Speech pathology 4 – language and communication problems (SLI, ADHD, autistic spectrum, aphasia, dyslexia)
15. On-site exercises in Dnevni centar za rehabilitaciju Slava Raškaj in Rijeka or in Centar za odgoj i obrazovanje Slava Raškaj in Zagreb; final discussion – oral exam

# Hearing disorders and methodology of hearing rehabilitation

<b>Name</b>	Hearing disorders and methodology of hearing rehabilitation	
<b>Organizational unit</b>	Department of Phonetics	
<b>ECTS credits</b>	5	
<b>ID</b>	124281	
<b>Semesters</b>	Summer	
<b>Teachers</b>	Arnalda Dobrić, PhD, Assistant Professor (primary, L, E) Marijana Tuta Dujmović (L, E) Robert Trotić, PhD, Full Professor (L, E) Sanja Vlahović, PhD, Assistant Professor (L, E)	
<b>Hours</b>	Lectures	30
	Exercies	30
<b>Prerequisites</b>	None	
<b>Goal</b>	The aim of the course is to master relevant diagnostic procedures, get insight into the possibilities of rehabilitation and the ability of problems solving.	
<b>Teaching methods</b>	lectures, exercises, on-site exercises; combined e-learning	
<b>Assessment methods</b>	fulfillment of course requirements, written and oral exam	

## Learning outcomes

1. Correlate different types of diseases and medical procedures that precede rehabilitation
2. Perform functional hearing and listening diagnostics
3. Analyze the obtained results and recommend a program of hearing and speech rehabilitation
4. Prepare and implement the program of hearing and speech rehabilitation depending on age, disorder and hearing aid of the client
5. Apply the verbotonal method in hearing and speech rehabilitation
6. Rank different types of voice and vocal tract problems as well as recommend and implement further rehabilitation procedures
7. Plan and organize independent work in hearing and speech rehabilitation with individuals or a group of clients
8. Plan and organize hearing and speech rehabilitation for clients with multiple disorders

## Content

1. Dealing with deafness through history; revision of hearing rehabilitation methods; the verbotonal system
2. AVGS/SGAV as a part of the verbotonal system; the verbotonal method
3. Anatomy and physiology of the peripheral auditory and vestibular system; anatomy and physiology of the central auditory and vestibular system
4. Illnesses that affect hearing and listening; audiological and vestibular tests in clinical practice
5. The correlation of diagnostics and rehabilitation; functional hearing diagnostics
6. Early hearing disorder diagnostics; possibilities and obstacles; introduction to ENT; Clinical center Setre milosrdnice
7. Introduction to ENT; Clinical center Sestre milosrdnice; surgery/diagnostics
8. Surgery/diagnostics
9. Cochlear implant (characteristics and principles of function); hearing development in children with cochlear implants
10. Application of the verbotonal method in hearing impaired people; functional diagnostics of hearing (exercises)
11. Functional diagnostics of hearing (exercises); hearing aid selection and adjustment (exercises)
12. Hearing aid selection and adjustment (exercises); rehabilitation of users of cochlear implants (exercises)
13. Rehabilitation of clients with cochlear implants (exercises)
14. Early intervention and hearing development in children with hearing impairment; special procedures in

- the verbotonal rehabilitation (musical an rhythmic stimulations)
15. Application of the verbotonal method in education; High school Slava Raškaj (exercises)

# History of rhetoric

<b>Name</b>	History of rhetoric		
<b>Organizational unit</b>	Department of Phonetics		
<b>ECTS credits</b>	5		
<b>ID</b>	125406		
<b>Semesters</b>	Summer		
<b>Teachers</b>	Gabrijela Kišiček, PhD, Associate Professor (primary, L, S)		
<b>Hours</b>	Lectures	15	
	Seminar	30	
<b>Prerequisites</b>	None		
<b>Goal</b>	The main goal of this course is to gain knowledge on the development of rhetoric throughout history, to understand its impact on civilization and social growth. The goal is to introduce the most important rhetorical theorists and orators to the students, to understand rhetorical principles in different periods, and to learn basic terms in rhetorical theory (speech structure, arguments, style, etc.) and their development and changes through different times.		
<b>Teaching methods</b>	Lectures – theoretical foundations of the development of rhetoric throughout the history Seminars – rhetorical analysis of different genres speeches from different periods delivered by different famous orators		
<b>Assessment methods</b>	Written exam	–	50%
	Presentation of specific rhetorical features and their development throughout history	–	30%
	Presentation and discussion on a specific topic of the history of rhetoric	–	10%
	Analysis and evaluation of speeches	–	10%

## Learning outcomes

1. Analyze the rhetorical characteristics of deliberative genre (based on historical and contemporary examples)
2. Analyze the rhetorical characteristics of judicial genre (based on historical and contemporary examples)
3. Analyze the rhetorical characteristics of epideictic genre (based on historical and contemporary examples)
4. Detect and identify the historical root of a certain rhetorical principle (speech structure, rhetorical canons, fallacies, rhetorical genres, etc.)
5. Recognize the style of the famous ancient orators (Isocrates, Demosthenes, Cato Elder, Cicero, Seneca...)
6. Create, plan and carry out exercises for the improvement of rhetorical skills (based on the example of historical schools, e.g. Progymnasmata)
7. Analyze, compare and evaluate speech structure and argumentation (based on the examples of historical and contemporary speeches)

## Content

1. a) Beginning of the development of rhetoric in Syracuse and the foundations of democracy in ancient Greece; rhetoric and society were developing simultaneously and students are introduced to the first important orators (Pericles) and first rhetorical theorists (Corax and Tisias), and their rhetorical principles  
b) Students are introduced to the philosophy of Socrates, his view of rhetoric and the invention of dialectics

- c) Analysis of Socrates speech
- 2. a) Sophistical approach to rhetoric; basic principles of sophistical theory: Dissoi logoi, Kairos, arete, endoxa; introduction to most important sophists (Protagora, Gorgias, Hypia, Prodic, Lisias)
  - b) Conflict of Plato and Socrates with sophists
  - c) Analysis of selected parts of Plato's dialogues (Gorgias, Protagoras, Phaedrus)
- 3. a) Plato's view on rhetoric
  - b) Isocrates and his school of rhetoric; introduction to the basic principles of Isocrates' school; rhetorical characteristics of oratory of that time; Demosthenes as an orator
  - c) Speech analysis – Demosthenes “Against Philip”, Isocrates “Against Sophists” and “Antidosis”
- 4. a) Aristotle – life and work; Aristotle's rhetorical principles, rhetorical genres; speech structure, modes of persuasion, style....
  - b) Differences between Plato, Isocrates, and Aristotle in the context of rhetoric
  - c) Analysis of selected parts of Aristotle's Rhetoric
- 5. a) Rhetoric in the Hellenistic age (between Aristotle and Cicero); Theophrastus and Peripatetic school
  - b) Rhetorica Ad Herennium – historical importance of manual, five rhetorical canons
  - c) Analysis of selected parts from Rhetorica Ad Herennium
- 6. a) Roman society and orators before Cicero (Gaius and Tiberius Gracchus, Cato Elder)
  - b) Cicero – orator and rhetorician; rhetorical characteristics of his speeches and his rhetorical theory
  - c) Analysis of Cicero's most famous speeches (Against Catilina, For Marcellus, For Milo, etc.)
- 7. a) Rhetoric in Roman Empire; rhetorical characteristics of declamations and the work of Seneca
  - b) Quintilian – Institutio Oratoria, the most important principles of Quintilian's rhetoric
  - c) Analysis of selected parts from Institutio Oratoria and analysis of rhetorical exercises from Greek schools on rhetoric from that time – Progymnasmata
- 8. a) Rhetoric and Christianity; the rhetoric of early Christians and panegyrics
  - b) Saint Augustin – rhetorical principles and preaching – De Doctrina Christiana
  - c) Analysis of selected parts of his book (De Doctrina Christiana) and rhetorical analysis of contemporary preachers
- 9. a) Rhetoric in the early Middle Ages; rhetoric at first universities; Boetius and his view on argumentation, legal topoi
  - b) Scholasticism and the place for rhetoric
  - c) Two streams in rhetoric – conflict between ethos and pathos
- 10. a) Rhetoric in the 16th century – Erasmus from Rotterdam
  - b) Petrus Ramus and the decline of rhetoric
  - c) Teaching rhetoric in the 16th century – focus on elocutio (style and figures of speech); analysis of figurativeness of speech
- 11. a) Rhetoric in the 17th and 18th centuries; development of science and the new logic; the conflict between pathos and logos; Descartes and Pascal in France, Locke in Great Britain
  - b) Port-Royal Logic – The Art of Thinking
  - c) Analysis of speeches – one based on pathos (epideictic oratory), one based on logos (judicial oratory)
- 12. a) Rhetoric of the 20th century; revitalization of rhetoric; different approaches: linguistic (Wittgenstein), speech-act theory (Searl), argumentation (Perelman, Toulmin), rhetoric as identification (K. Burke)
  - b) Jurgen Habermas and his communicative competence
  - c) Analysis of rhetorical characteristics of speeches from the 20th century (with focus on war rhetoric)
- 13. a) Chaim Perelman and his New Rhetoric; concept of an audience, the importance of epideictic genre, figures of speech as arguments
  - b) The importance of Toulmin's argumentation theory on rhetoric
  - c) Analysis of the selected parts of the New Rhetoric
- 14. a) Contemporary approaches to rhetoric – informal logic, pragma dialectics, visual rhetoric
  - b) Multimodal approach to rhetoric
  - c) Rhetorical analysis of contemporary public discourse (political campaigns, advertising...)
- 15. a) Student presentations
  - b) Student presentations
  - c) Student presentations

## Information and communication theory

<b>Name</b>	Information and communication theory
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	3
<b>ID</b>	36733
<b>Semesters</b>	Winter
<b>Teachers</b>	Nikolaj Lazić, PhD, Full Professor (primary, L)
<b>Hours</b>	Lectures 30
<b>Prerequisites</b>	None
<b>Goal</b>	The course provides an overview of the theoretical foundations of any type of communication. All elements of the communication process are analyzed in detail, through different media, different situations, different participants in the process, thus providing the basis for researching all forms of communication.
<b>Teaching methods</b>	Lectures
<b>Assessment methods</b>	Oral exam

### Learning outcomes

1. Distinguish and describe the components of the communication process
2. Distinguish and describe the media in the communication process
3. Mathematically describe and explain the impact of the information
4. Distinguish the informative from the redundant in different forms of communication
5. Define the concepts of information, entropy and redundancy in the communication process

### Content

1. Introduction to the course; information as a measure of all values; cybernetics and its brief history; etymology and fundamental meaning of the words cybernetics and information
2. Entropy; thermodynamics; probability and causality; Maxwell's demon; Living and non-living objects; negentropy
3. Entropy and time; stopping time, speeding up and reversing; estimating the age of objects; persistence as a measure of value; social time; progress
4. Continuum and discontinuum; siversity and dissimilarity; freedom and diversity; individual freedom and order
5. Information and expectation; probability function and amount of information; bit as a unit of information; binary background of the information measure; logarithmic relationship of information effect and information stimulus
6. Equiprobability – zero degree of approximation; stochastic processes – the first degree of approximation; higher degrees of approximation – Markov process; examples with speech and other examples
7. Calculating the average amount of information per event from the first degree of approximation; illustrations on simple numerical examples
8. Relative information; redundancy; the importance of redundancy in the communication process; calculating and measuring redundancy
9. Destination of the information as the nucleus of the communication process; source of information; abstract model of destination and source; matching diversity in source and destination; overcoming the mismatch in diversity by descending to common diversity, the learning process as process of connecting particles
10. Rational formation of expectations from relative frequency, from the observation of order and form, from rhythm; paradoxical amounts of expectation from motivational weights, mobit (motivational bit); relative frequency and expectation mismatches; a mathematical model of that state
11. Form and organization; desirable and undesirable sources; noise as unwanted communication; pleasant and uncomfortable (adaptive) communication; reasons for communication: realization of projects,

- consolidation (conservation) of forms, reconstruction (restoration) of the damaged forms
12. Erosion of the information source; information source as entropy (in-form); information as a reduction of uncertainty about the source (i.e. as its shaping – in-forming); Barren communication – a game, i.e. existential eternal communication
  13. Complete communication scheme; parts: source, coder, transmitter, channel, receiver, decoder, destination; communication forms: information, message, signal (stimulus); harmonizing communication process parts; communication losses, additions; feedback
  14. Communicational directions – temporal and spatial; natural and conventional signs, codes; "Channeled" channels, open channels – mass communication; temporal and spatial societies and mentalities
  15. The concept of media; McLuhan's cold and hot media; condensed and diluted signals; cold and hot senses; mental level of cold and hot media; democracy as a cold medium

# Linguistics of speech

<b>Name</b>	Linguistics of speech
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	5
<b>ID</b>	51310
<b>Semesters</b>	Summer
<b>Teachers</b>	Jelena Vlašić Duić, PhD, Full Professor (primary, L)
<b>Hours</b>	Lectures 60
<b>Prerequisites</b>	None
<b>Goal</b>	The aim of this course is to provide theoretical knowledge in the field of speech linguistics and speech stylistics.
<b>Teaching methods</b>	Lectures
<b>Assessment methods</b>	Continuous evaluation, colloquium, written and oral exam

## Learning outcomes

1. Explain the characteristics of the linguistic and speech sign
2. Explain the systematic nature of speech in the context of linguistics of speech
3. Differentiate between Bally's and Guberina's stylistics
4. Analyze procedures at phonostylistic, morphostylistic, semantic-stylistic and syntactic-stylistic levels
5. Analyze the organization of the speech message
6. Interpret Jacobson's linguistic functions and explain their communicative application
7. Analyze the procedures of speech stylistics in spoken and written text

## Content

1. Introduction to linguistics of speech
2. Introduction to semiology; linguistic sign: definition, principles and motivation
3. Speech sign: definition, principles, motivation, simultaneity and globality
4. Communication models; De Saussure's description of the speech circle
5. Jacobson's linguistic functions; De Saussure's dichotomies
6. Organization of the speech message; values of spoken language according to Petar Guberina
7. First colloquium
8. Systematics and universality of vocal expression of emotion
9. Bally's affective stylistics; speech stylistics of Peter Guberina
10. Stylistic value of complex sentences; quantitative and qualitative stylistics
11. Linguistic stylistics
12. Experimental speech stylistics; speech and poetic sign
13. Speaking and writing; visual poetry
14. Speech stylistics in literary texts; verbal sentence; free indirect speech
15. Second colloquium

## Master's Thesis for the Graduate Study of Phonetics

<b>Name</b>	Master's Thesis for the Graduate Study of Phonetics
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	15
<b>ID</b>	124609
<b>Semesters</b>	Summer
<b>Teachers</b>	Arnalda Dobrić, PhD, Assistant Professor (primary, S) Ana Vidović Zorić, PhD, Assistant Professor (primary, S) Diana Tomić, PhD, Assistant Professor (primary, S) Elenmari Pletikos Olof, PhD, Associate Professor (primary, S) Gabrijela Kišiček, PhD, Associate Professor (primary, S) Iva Bašić, PhD, Assistant Professor (primary, S) Ines Carović, PhD, Assistant Professor (primary, S) Jelena Vlašić Duić, PhD, Full Professor (primary, S) Marko Liker, PhD, Associate Professor (primary, S) Nikolaj Lazić, PhD, Full Professor (primary, S)
<b>Hours</b>	Seminar 0
<b>Prerequisites</b>	None
<b>Goal</b>	
<b>Teaching methods</b>	
<b>Assessment methods</b>	
<b>Learning outcomes</b>	
<b>Content</b>	

## Methodology of phonetic care of voice and pronunciation (an individual approach)

<b>Name</b>	Methodology of phonetic care of voice and pronunciation (an individual approach)	
<b>Organizational unit</b>	Department of Phonetics	
<b>ECTS credits</b>	5	
<b>ID</b>	125404	
<b>Semesters</b>	Summer	
<b>Teachers</b>	Iva Bašić, PhD, Assistant Professor (primary, L, ME)	
<b>Hours</b>	Lectures	15
	Methodology exercises	30
<b>Prerequisites</b>	None	
<b>Goal</b>	Acquisition of theoretical knowledge about voice care, adoption of exercises for the prevention of vocal fatigue and preparation of students for public speaking with optimal voice saving.	
<b>Teaching methods</b>	Lectures, independent student tasks, exercises and mixed e-learning	
<b>Assessment methods</b>	Class attendance 15% (maximum – no absences), pre-exams (2) – maximum 60% (both pre-exams grade excellent – 5), 15% for visits (15 hours of visits: 10 hours National broadcasting network [HRT-HTV], 5 Academy of dramatic art [ADU] or all 15 HRT-HTV), independent correction of vocal professional's diction (10%).	

### Learning outcomes

1. Assess and comment on the diction of vocal professionals
2. Distinguish acoustic parameters when assessing voice quality
3. Anticipate aesthetic and functional voice difficulties
4. Valorize voice quality and diction according to phonetic status
5. Create and recommend individual exercises for voice and pronunciation
6. Identify the possible consequences of permanent vocal fatigue
7. Conduct exercises to correct diction and improve voice quality on the filter

### Content

1. Introduction to the methodology of phonetic care of voice and pronunciation (individual approach); the subject and the method of assessment are introduced
2. The importance of voice quality of vocal professionals
3. Phonetic voice description and introducing procedures for correcting voice timbre
4. Voice history questionnaire; exercises: analysis of the questionnaire on the anamnesis of the voice and exact methodical instructions
5. Analysis of students' voice and pronunciation (part 1); exercises: individual work on the filter – protective and aesthetic line
6. Student voice and pronunciation analysis (part 2); exercises: individual voice and pronunciation correction
7. Phonetic pronunciation exercises (part 1); exercises: individual diction correction
8. Phonetic pronunciation exercises (part 2); exercises: individual diction correction
9. Therapeutic accent method; exercises: group and individual performance of accent exercises for voice
10. Diction – articulation and prosody; exercises: matching vocal articulation and prosody (elite speech professionals)
11. Knowledge test: test 1 (passing grade contributes 10% toward the total grade, excellent 30%)
12. Speech in front of a group (according to genre definitions); exercises: correct impostation of the teacher's voice
13. Microphone presentation in front of a group; exercises: individual speech performance with a

- microphone (elite speech professionals)
14. Final test: test 2 (contributes a maximum of 30% toward the total grade)
  15. Special tasks – correction of voice and pronunciation of vocal professionals (individual approach) (15% of the total grade); preparation for the oral exam

## Methodology of scientific work

<b>Name</b>	Methodology of scientific work	
<b>Organizational unit</b>	Department of Phonetics	
<b>ECTS credits</b>	3	
<b>ID</b>	117515	
<b>Semesters</b>	Winter	
<b>Teachers</b>	Marko Liker, PhD, Associate Professor (primary, L, S)	
<b>Hours</b>	Lectures	15
	Seminar	15
<b>Prerequisites</b>	None	
<b>Goal</b>	The aim of this course is to introduce students to scientific discourse and to enable them to plan their own research projects through a series of steps in experimental research design. After completing this course, students will be able to write and present a research proposal.	
<b>Teaching methods</b>	Lectures, assignments and seminars	
<b>Assessment methods</b>	Guided seminar assignments and oral exam	

### Learning outcomes

1. Asses relevant literature
2. Plan a research project
3. Identify a research problem and asses research techniques and methods
4. Interpret data and distinguish between relevant and irrelevant data for a particular research question
5. Asses research methods applied in published literature
6. Visually present data
7. Present a research proposal/project

### Content

1. Course introduction: aim, course outcomes, students' responsibilities, and evaluation
2. Basic terminology: science and pseudoscience; method; methodology, variables, hypotheses.
3. Research design: research question
4. Research design: research context and hypotheses
5. Research design: experimental design and data acquisition planning
6. Research design: planning of analysis and interpretation of the data
7. Research design: planning of analysis and interpretation of the data
8. Research design: publishing plan
9. Synopsis: structure and purpose
10. Research collaborations
11. Research ethics
12. Research follow-up
13. Research proposal presentations
14. Research proposal presentations
15. Course conclusion

# Methodology of the individual approach to the rehabilitation of hearing and speech

<b>Name</b>	Methodology of the individual approach to the rehabilitation of hearing and
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	5
<b>ID</b>	160755
<b>Semesters</b>	Summer
<b>Teachers</b>	Arnalda Dobrić, PhD, Assistant Professor (primary, L, E)
<b>Hours</b>	Lectures 5 Exercies 55
<b>Prerequisites</b>	None
<b>Goal</b>	The aim of the course is to enable students to prepare and implement a program of individual hearing and speech rehabilitation.
<b>Teaching methods</b>	Lectures, practical work, on-site exercises, discussion and analysis
<b>Assessment methods</b>	Evaluation of 2 rehabilitation sessions – one with a preschool child and one with an elementary-school child, lesson plans and accompanying materials used in the session; evaluation of the logbook

## Learning outcomes

1. Identify different types of hearing and speech disorders
2. Analyze client's dossier and plan appropriate rehabilitation
3. Evaluate client's progress and modify the rehabilitation procedures if needed
4. Predict the course of the rehabilitation for the respective client
5. Choose appropriate procedures for users of cochlear implants
6. Choose appropriate procedures depending on the age and social environment of the respective client
7. Depending on the client, define problems in the group work and re-evaluate chosen rehabilitation procedures

## Content

1. Introductory lecture on the individual rehabilitation using the verbotonal method
2. Practical work (exercises) in a preschool institution
3. Practical work (exercises) in a preschool institution
4. Practical work (exercises) in a preschool institution
5. Practical work (exercises) in a preschool institution
6. Practical work (exercises) in a preschool institution
7. Practical work (exercises) in a preschool institution
8. Evaluation of the students' independent rehabilitation
9. Practical work (exercises) in school (weeks 9–7)
10. Practical work (exercises) in school (weeks 9–7)
11. Practical work (exercises) in school (weeks 9–7)
12. Practical work (exercises) in school (weeks 9–7)
13. Practical work (exercises) in school (weeks 9–7)
14. Practical work (exercises) in school (weeks 9–7)
15. Evaluation of the students' independent rehabilitation session in the school; conclusion of the course

## Methodology of working on speech in electronic media

<b>Name</b>	Methodology of working on speech in electronic media	
<b>Organizational unit</b>	Department of Phonetics	
<b>ECTS credits</b>	5	
<b>ID</b>	124278	
<b>Semesters</b>	Winter	
<b>Teachers</b>	Jelena Vlašić Duić, PhD, Full Professor (primary, L, ME)	
<b>Hours</b>	Lectures	30
	Methodology exercises	30
<b>Prerequisites</b>	None	
<b>Goal</b>	The aim of the course is to offer theoretical and practical knowledge and skills necessary to work with elite speech professionals in electronic media with respect to different genres and speech styles. The students will also acquire and implement the knowledge of vocal care and pronunciation. A specific goal is to equip students with the competence to work on improving speech performance and rhetorical design in working with speech professionals, as well as to apply acquired knowledge and skills in teaching speech in electronic media.	
<b>Teaching methods</b>	Seminars, combined e-learning, independent student projects	
<b>Assessment methods</b>	Class attendance – 10% (maximum – no absences), midterm and final written exam – maximum 50% (midterm 25%: excellent grade – 5; final 25%: excellent grade – 5), visit to the national TV network (HRT) – 10% (10 hours of observation at HRT), moderator of a cycle of exercises for voice and pronunciation (VZGI) – 10%, phonetic status – 10%, short talk – 10%. Total: = 100%. Grading scale: 60–70% = sufficient (2); 71–80% = good (3); 81–90% = very good (4); 91–100% = excellent (5).	

### Learning outcomes

1. Critically assess the characteristics of archetypal speech in speech professionals in electronic media
2. Recommend exercises for improvement of conversational speech and speech elegance in vocal and speech professionals
3. Critically assess public speaking in electronic media
4. Evaluate speaking in electronic media on the basis of phonetic status
5. Design and implement individual and group exercises for improvement of vocal quality
6. Create and carry out individual exercises for improving the diction of the speakers in electronic media
7. Assess speech performance, rhetorical design and visual signs of vocal professionals in electronic media

### Content

1. Introductory lecture about the methodology of working on speech in electronic media; input and output competences; spoken and associated communication – scope of lectures aimed at speech professionals  
Exercises (2 periods): Familiarizing students with their obligations – literature, preparing for exercises, visits to the TV network, midterms  
Distribution of topics (moderating a cycle of VZGI – Form 1, short teaching-methods presentations – 15 min, phonetic status of speech professionals)
2. Lecture (2): prosodic factors of TV and radio speech (Form 2)  
Temporal parameters of speech – tempo: TA, TG, TG – TA (syllable/s); pause-to-speech ratio (%) on the examples of TV speech according to speech genres  
Exercises (2): VZGI – Part I: moderators of a cycle of phonetic exercises for voice and pronunciation under teacher's supervision (4 student moderators) based on original exercises authored by Škarić, I. & Varošanec-Škarić, G. In: Varošanec-Škarić, G. (2010). *Fonetska njega glasa i izgovora*. Zagreb: FF press.
3. Lecture (2): Characteristics of Croatian National Media Rhetoric School – archetypal speech:

- conversational speech, conversation, speaker-focus; purism; elegance  
 Exercises: VZGI – Part II: moderators of a cycle of phonetic exercises for voice and pronunciation under teacher's supervision (4 student moderators) based on original exercises authored by Škarić, I. & Varošaneć-Škarić, G. In: Varošaneć-Škarić, G. (2010). *Fonetska njega glasa i izgovora*. Zagreb: FF press. (pp. 56–83). Student's performance of VZGI by teacher's supervision.
4. Lecture (2): Characteristics of Croatian National Media Rhetoric School Speaking  
 Exercises (2): Recording the news
  5. Lecture (2): Phonetic status (Form 3)  
 Exercises (2): Mastering the phonetic status protocol (Part 1) on the example of the speech of vocal professionals  
 Exercises in diction (vowel and consonant enunciation);  
 Speech performance – news (reading style)
  6. Lecture (2): Midterm 1 – Phoneti status (theoretical and practical part); Varošaneć-Škarić, G. (2010). *Fonetska njega glasa i izgovora*. Zagreb: FF press. (pp. 100–110) i Škarić, I. (2009). *Hrvatski izgovor*. Zagreb: Nakladni zavod Globus.  
 Chapter: Odlike hrvatske državne medijske govorničke škole (pp. 51–62)  
 Exercises (2): Application of the phonetic status protocol (Form 4, Part 2)
  7. Lecture (2): Television genres – speech performance and rhetorical design; news anchor's speech – phonetic status  
 Exercises (2): Speech exercises – distant and emphatic style in the news
  8. Lecture (2): Pronunciation of foreign names (Form 5)  
 Exercises (2): Speech exercises – pronunciation of foreign names
  9. Lecture: Voice and visual signs on TV and the Internet  
 Exercises (2): Analysis of the speech and rhetorical design of moderators in TV debates (including political debates), mosaic shows (implementation of phonetic status)
  10. Lecture (2): Speaking etiquette in media speech  
 Exercises: Analysis of speaking etiquette of anchors/moderators in various genres
  11. Lecture (2): Methodology of phonetic research of TV and radio speech  
 Exercises (2): Phonetic status
  12. Lecture (2): Communication strategies and speaking styles  
 Exercises (2): Short presentations on assigned topics (20 min. each); acoustic analyses of the voice and speech of TV and radio vocal professionals
  13. Lecture (2): Research into speech on TV  
 Exercises (2): Short presentations on assigned topics (20 min. each); acoustic analyses of the speech of vocal professionals
  14. Lecture (2): Final written exam – theoretical part (compulsory literature)  
 Exercises (2): Phonetic status of TV and radion speech professionals
  15. Grading  
 Possibility of a make-up written test

## Methods in teaching rhetoric

<b>Name</b>	Methods in teaching rhetoric
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	5
<b>ID</b>	124277
<b>Semesters</b>	Winter
<b>Teachers</b>	Jelena Vlašić Duić, PhD, Full Professor (primary, L, ME)
<b>Hours</b>	Lectures 30 Methodology exercises 30
<b>Prerequisites</b>	None
<b>Goal</b>	The aim of the course is to enable future rhetoric teachers to organize classes with speaking content, to independently select, design and apply teaching methods and techniques in the processing of rhetorical content, and also to design teaching that will motivate students to understand rhetorical theory and develop rhetorical skills.
<b>Teaching methods</b>	Lectures and exercises
<b>Assessment methods</b>	Continuous evaluation, demonstration lesson, seminar assignment, colloquium, oral exam

### Learning outcomes

1. Design teaching objectives and outcomes of the subject Rhetoric
2. Explain teaching outcomes in the context of Bloom's taxonomy
3. Plan, design and conduct the teaching of the subject Rhetoric in high schools, colleges and universities
4. Analyze current curricula of the subject Rhetoric in Croatian schools
5. Determine the criteria in evaluating a speech delivery and evaluate student achievement
6. Prepare and hold a demonstration lesson in Rhetoric classes in high school
7. Explain and apply motivational strategies and learning styles

### Content

1. Introduction to the methods of teaching rhetoric; analysis of rhetorical topics in Croatian language textbooks and workbooks for high schools
2. Teaching methods as a scientific discipline; interdisciplinarity; analysis of rhetorical topics in textbooks and workbooks for high schools available in Croatian language
3. Speaking as a subject; models of processing lessons in Croatian language textbooks for high schools
4. Curriculum; instructions on classroom observations and keeping a diary of teaching attendance
5. Determining the teaching outcomes: Bloom's taxonomy; determining outcomes in the design of the curriculum and outcomes of teaching units
6. Learning styles; application of learning styles in teaching rhetoric
7. Teaching methods; selection of methods in teaching rhetoric
8. Teaching aids; analysis of existing curricula for the subject Rhetoric in Croatian schools
9. Motivational procedures in teaching; methodological approach to selected rhetorical topics
10. Types of lessons; methodological approach to selected rhetorical topics
11. Preparation of a lesson plan; methodological approach to selected rhetorical topics
12. Evaluation criteria of rhetorical topics; student oral presentations of methodological topics
13. Classroom observations, evaluation and assessment; student oral presentations of methodological topics
14. Analysis of diaries of teaching attendance; Student oral presentations of methodological topics
15. Colloquium; evaluation and conclusion

# Neurophonetics

<b>Name</b>	Neurophonetics	
<b>Organizational unit</b>	Department of Phonetics	
<b>ECTS credits</b>	4	
<b>ID</b>	#1667	
<b>Semesters</b>	Summer	
<b>Teachers</b>	Ana Vidović Zorić, PhD, Assistant Professor (primary, L, S) Miloš Judaš, PhD, Full Professor (L) Boška Munivrana Dervišbegović, PhD, Assistant Professor (S)	
<b>Hours</b>	Lectures	30
	Seminar	15
<b>Prerequisites</b>	None	
<b>Goal</b>	This course aims to introduce students to the fundamentals of neuroscience with emphasis on speech and especially phonetics, and to give them an overview of the contemporary research methods in the study of brain functions.	
<b>Teaching methods</b>	Lectures, seminars, classroom discussion	
<b>Assessment methods</b>	Class attendance, preliminary exam, seminar paper, written exam, oral exam; standard grading.	

## Learning outcomes

1. 1. Explain the typical process in speech production and speech processing in specific cases from a neurobiological perspective.
2. 2. Identify the basic neuroanatomical structures involved in speech processing and explain their role in speech.
3. 3. Explain the similarities and differences between speech motor skills and other motor skills.
4. 4. Compare the perception of speech and the perception of non-speech sounds from a neurobiological perspective.
5. 5. Critically discuss significant theories of speech perception and production.
6. 6. Explain significant methods of examining neurological processes in speech.

## Content

1. L: Historical overview of the discoveries of the brain functions  
S: Choosing the topics of the seminar paper and giving instructions for its preparation
2. L: Anatomy of the nervous system: phylogenetic and ontogenetic development  
S: Discussion after reading the assigned scientific paper
3. L: Anatomy of the nervous system: five parts of the brain and their functions  
S: Discussion after reading the assigned scientific paper
4. L: Neuron, nerve impulse propagation and synaptic transmission  
S: Students' oral presentations on the chosen topic and discussion
5. L: Brain research methods  
S: Students' oral presentations on the chosen topic and discussion
6. L: Functional principles and models 1  
S: Students' oral presentations on the chosen topic and discussion
7. L: Functional principles and models 2  
S: Students' oral presentations on the chosen topic and discussion
8. P: Lateralization and localization of functions  
S: Students' oral presentations on the chosen topic and discussion
9. L: Lateralization and gender  
S: Students' oral presentations on the chosen topic and discussion
10. L: Lateralization and hand preference  
S: Students' oral presentations on the chosen topic and discussion

11. L: Speech, language and neural organization  
S: Students' oral presentations on the chosen topic and discussion
12. L: Brain and phonetics  
S: Students' oral presentations on the chosen topic and discussion
13. L: Brain and speech and language disorders  
S: Students' oral presentations on the chosen topic and discussion
14. L: Bilingualism and brain organization  
S: Students' oral presentations on the chosen topic and discussion
15. L: Final considerations  
S: Evaluation of student work; revision

## Non-verbal communication

<b>Name</b>	Non-verbal communication	
<b>Organizational unit</b>	Department of Phonetics	
<b>ECTS credits</b>	5	
<b>ID</b>	36734	
<b>Semesters</b>	Summer	
<b>Teachers</b>	Gabrijela Kišiček, PhD, Associate Professor (primary, L, S)	
<b>Hours</b>	Lectures	15
	Seminar	30
<b>Prerequisites</b>	None	
<b>Goal</b>	The aim of the course is for students to acquire basic knowledge in the field of non-verbal communication and to adopt relevant scientific and professional terminology in the same field. Through seminar research papers, students will focus on a certain type of non-verbal signs and in their presentation, they will illustrate and present their topic. Students will additionally emphasize the border area of language and non-verbal in speech and become aware of its importance for speech communication.	
<b>Teaching methods</b>	Lectures, seminars	
<b>Assessment methods</b>	Class attendance – 10% (1 absence – 10%; 2 absences – 5%; 3 absences – 0%); preparation and presentation of seminar paper – 30%; test – 60%; total – 100%	

### Learning outcomes

1. Name and explain the main functions of non-verbal communication
2. Interpret proxemic signs and the division of personal space
3. Recognize the role of nonverbal cues
4. Define and explain nonverbal communication and types of nonverbal cues
5. Interpret cultural differences in body language
6. Illustrate and interpret different hand positions in communication
7. Interpret haptics with respect to performance and role in interpersonal interaction
8. Define and interpret the paralinguistic layer of the voice
9. Interpret and illustrate facial expressions in interpersonal interaction and know the typification of face as masks

### Content

1. Vocal and non-vocal non-verbal signs: Determination of vocal and non-vocal non-verbal signs, with special reference to paralinguistic signs, division of non-verbal signs and kinesics, facial expressions and human sounds.
2. Body language: Indicating cultural differences in body language, gestures and hand positions; in particular, the theoretical division of gestures is explained.
3. Kinesics (body movements) and mimicry (facial speech): Students' research papers related to the importance of voice as a non-verbal sign and how much they tell us about the emotional state of the speaker, the relationship between the interlocutor and the personality of the speaker.
4. Vocal non-verbal signs: The seminar will present research papers of students who compare members of different cultures according to the use of non-verbal signs. The research can be conducted by filming members of different cultures currently residing in Croatia (e.g. in Croaticum) or on the basis of shows from various foreign television programs.
5. Cultural differences in body language: Research papers will present comparison of different situations and speakers based on the use of body language. In real situations, it will be shown what the position of the hands tells us about a person's personality, about his relationship with the interlocutor, what are the functions of hand speech during communication.
6. Proxemic signs: The main types of body posture, types of touch and facial speech with special emphasis

- on the mask are determined.
7. Kinesics: Through seminar papers, different speakers will be analyzed depending on the position of the body and what a certain position says about a person, situation, emotional state. In the seminars, special attention will be paid to both touching and self-touching.
  8. Mimicry: Different facial expressions will be shown through seminar papers. Special attention will be paid to the view and its importance during the public appearance.
  9. Colors and time signs: The notion of territoriality is defined and the division of distances in communication and directions and axes of communication are stated. Other punctuation marks such as set design and props as well as framing and colors are also covered.
  10. Spatial meanings of different types of conversations: through the analysis of different situations and spaces, the importance of proxemics in terms of distance between speakers will be explored. Based on the analysis of different television shows, differences will be compared and determined based on the distance of the interlocutor according to the type of show.
  11. Clothing as a formal sign: Different meanings of the term time and meanings of short and long speech are defined. Particular attention is paid to clothing as a formal sign in special festive events.
  12. Student seminar presentations with the mentorship of teachers – proxemics. Through research papers, the importance of proxemic signs in the aspect of occupying a position in space will be analyzed. Proxemics in negotiations, business meetings, lectures and some important institutions will be analyzed.
  13. Student seminar presentations under the mentorship of teacher – time signs. The importance of respecting time signs in different situations will be determined and it will be determined whether they are in accordance with formal, informal or technical time.
  14. Student seminar presentations with the mentorship of teacher – props and scenography. Different shows will be analyzed and compared according to their use of props and scenography.
  15. Student seminar presentations with teacher mentorship – appearance in relation to the communication context. Through the seminar papers students will try to answer the question of whether appearance can be interpreted as one of the ways of communication. Based on the analysis of different situations, differences and appropriateness to a particular situation will be determined.

# Orthoepy of Croatian language

<b>Name</b>	Orthoepy of Croatian language
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	4
<b>ID</b>	#1661
<b>Semesters</b>	Winter
<b>Teachers</b>	Iva Bašić, PhD, Assistant Professor (primary, L, S, SE)
<b>Hours</b>	Lectures 15 Seminar 15 Speech exercises 15
<b>Prerequisites</b>	None
<b>Goal</b>	The aim of the course is for students to acquire basic knowledge in the field of orthoepy, varieties of Croatian language based on recent studies. Through seminars, students should critically contemplate specific orthoepic questions in the Croatian language. Second aim of this course is for students to recognize and perform all Croatian standard accents and to acquire general pronunciation of the Croatian language.
<b>Teaching methods</b>	Seminars and exercises
<b>Assessment methods</b>	Class attendance – 10% (1 absence – 10%; 2 absences – 5%; 3 absences – 0%); 3 tests (IPA transcription, accent perception, theoretical knowledge – 60%, seminar presentation – 30%; total: = 100%

## Learning outcomes

1. 1. Auditive recognition, pronunciation and marking accents of Croatian language
2. 2. Apply knowledge about paradigmatic shifts of place, tone and duration of accent.
3. 3. Analyze the implementation of the orthoepic norm in public speech.
4. 4. Elaborate prosodic characteristics of speech sound, syllable and word.
5. 5. Apply orthoepic rules in the pronunciation of consonants and vowels.
6. 6. Critically analyze and compare accents in normative manuals of the Croatian language.
7. 7. Elaborate discrepancies between accent norm and usage.

## Content

1. Introduction to orthoepy of the Croatian language. The pronunciation of consonants and vowels in the Croatian standard language and in other varieties, as well as the IPA table are determined. The ways of pronouncing phonemes in Croatian are adopted and instructions for preparing and performing a seminar paper are given. The use of the IPA symbols for consonants, vowels and accents in the Croatian is mastered.
2. Theoretically, a phonetic description of the pronunciation of phonemes is adopted, with special reference to the pronunciation of allophones and some peculiarities in three types of general Croatian: for the so-called classical pronunciation, acceptable and accepted pronunciation. The pronunciation, description and transcription of allophones as pronunciation variants of a phoneme in Croatian are especially practiced.
3. Some problems of Croatian spelling and orthography are introduced. The terms: codified standard Croatian, modern implicit speech standard and an accepted pronunciation in the context of Croatian pronunciation, are explained. The pronunciation of long and short stressed vowels with descending and ascending pitch are practiced, as well as short and long unstressed vowels.
4. Pronunciation and spelling rules for phonemes: č, ć, dž, đ are introduced and questioned. Special attention is paid to norm and practice discrepancy, Croatian linguistic tradition. Vowel, consonant and accent performance is practiced.
5. Prosodic tendencies in Croatian are discussed, according to different varieties of Croatian. Neutralization of short ascending accent, descending accent on inner syllables of word, accentuation of

- foreign words in Croatian are discussed.
6. Transferring descending accent to proclitics in accepted Croatian speech is discussed according to older and recent grammars, handbooks and scientific papers.
  7. The characteristics of conversational style are determined on the basis of theoretical works and examinations of students. Exceptions from the standard Croatian in the pronunciation and accentuation are determined and phonetically described.
  8. Challenges in adopting standard Croatian accents. Exercises for easier adopting of four standard Croatian language accents are presented and applied. Accents are practiced on logatomes, meaningless words, while mumbling and on actual Croatian words. Accents are practiced in the aspect of their place, tone and duration.
  9. Doublet and triplet accent forms in Croatian are discussed, according to different dictionaries, handbooks and grammars. Word paradigm is discussed.
  10. Accentuation of foreign words in Croatian. Special attention is paid to prosodic assessment of foreign words in Croatian, as well as to the sociophonetic approach to their pronunciation.
  11. Foreign names pronunciation in standard Croatian. Grammatical, declination and pronunciation rules for foreign names are discussed, based on recordings of professional verified speaker.
  12. Sociophonetic approach to accentuation in Croatian. Test 1: IPA transcription, pronunciation of phonemes and allophones.
  13. Sociophonetic approach to different varieties in Croatian language.
  14. Speech in the public media. Discussion of student's recordings while reading (pronunciation and accentuation analysis).
  15. Analysis of television journalists. Based on the edited recordings of television speakers, their pronunciation performance and rhetorical design are analyzed.

## Orthoepy of Croatian language I + Speech exercises

<b>Name</b>	Orthoepy of Croatian language I + Speech exercises	
<b>Organizational unit</b>	Department of Phonetics	
<b>ECTS credits</b>	5	
<b>ID</b>	51303	
<b>Semesters</b>	Winter	
<b>Teachers</b>	Iva Bašić, PhD, Assistant Professor (primary, S, SE)	
<b>Hours</b>	Seminar	30
	Speech exercises	15
<b>Prerequisites</b>	None	
<b>Goal</b>	The aim of the course is for students to acquire basic knowledge in the field of orthoepy, varieties of Croatian language based on recent studies. Through seminars, students should critically contemplate specific orthoepic questions in the Croatian language. Second aim of this course is for students to recognize and perform all Croatian standard accents and to acquire general pronunciation of the Croatian language.	
<b>Teaching methods</b>	Seminars and exercises	
<b>Assessment methods</b>	Class attendance – 10% (1 absence – 10%; 2 absences – 5%; 3 absences – 0%); 3 tests (IPA transcription, accent perception, theoretical knowledge – 60%, seminar presentation – 30%; total: = 100%	

### Learning outcomes

1. Distinguish allophones as pronunciation variants of a phoneme in Croatian pronunciation
2. Describe the problems of discrepancy between norm and practice in Croatian
3. Distinguish and comment on noticeable prosodic tendencies in different varieties of Croatian
4. Describe similarity and difference between different functional styles of the Croatian language
- 5.

### Content

1. Introduction to orthoepy of the Croatian language. The pronunciation of consonants and vowels in the Croatian standard language and in other varieties, as well as the IPA table are determined. The ways of pronouncing phonemes in Croatian are adopted and instructions for preparing and performing a seminar paper are given. The use of the IPA symbols for consonants, vowels and accents in the Croatian is mastered.
2. Theoretically, a phonetic description of the pronunciation of phonemes is adopted, with special reference to the pronunciation of allophones and some peculiarities in three types of general Croatian: for the so-called classical pronunciation, acceptable and accepted pronunciation. The pronunciation, description and transcription of allophones as pronunciation variants of a phoneme in Croatian are especially practiced.
3. Some problems of Croatian spelling and orthography are introduced. The terms: codified standard Croatian, modern implicit speech standard and an accepted pronunciation in the context of Croatian pronunciation, are explained. The pronunciation of long and short stressed vowels with descending and ascending pitch are practiced, as well as short and long unstressed vowels.
4. Pronunciation and spelling rules for phonemes: č, ć, dž, đ are introduced and questioned. Special attention is paid to norm and practice discrepancy, Croatian linguistic tradition. Vowel, consonant and accent performance is practiced.
5. Prosodic tendencies in Croatian are discussed, according to different varieties of Croatian. Neutralization of short ascending accent, descending accent on inner syllables of word, accentuation of foreign words in Croatian are discussed.
6. Transferring descending accent to proclitics in accepted Croatian speech is discussed according to older and recent grammars, handbooks and scientific papers.

7. The characteristics of conversational style are determined on the basis of theoretical works and examinations of students. Exceptions from the standard Croatian in the pronunciation and accentuation are determined and phonetically described.
8. Challenges in adopting standard Croatian accents. Exercises for easier adopting of four standard Croatian language accents are presented and applied. Accents are practiced on logatomes, meaningless words, while mumbling and on actual Croatian words. Accents are practiced in the aspect of their place, tone and duration.
9. Doublet and triplet accent forms in Croatian are discussed, according to different dictionaries, handbooks and grammars. Word paradigm is discussed.
10. Accentuation of foreign words in Croatian. Special attention is paid to prosodic assessment of foreign words in Croatian, as well as to the sociophonetic approach to their pronunciation.
11. Foreign names pronunciation in standard Croatian. Grammatical, declination and pronunciation rules for foreign names are discussed, based on recordings of professional verified speaker.
12. Sociophonetic approach to accentuation in Croatian. Test 1: IPA transcription, pronunciation of phonemes and allophones.
13. Sociophonetic approach to different varieties in Croatian language.
14. Speech in the public media. Discussion of student's recordings while reading (pronunciation and accentuation analysis).
15. Analysis of television journalists. Based on the edited recordings of television speakers, their pronunciation performance and rhetorical design are analyzed.

# Orthophony

<b>Name</b>	Orthophony
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	5
<b>ID</b>	51613
<b>Semesters</b>	Winter
<b>Teachers</b>	Iva Bašić, PhD, Assistant Professor (primary, L, SE)
<b>Hours</b>	Lectures 30 Speech exercises 15
<b>Prerequisites</b>	To pass course it is necessary to attend course General Phonetics
<b>Goal</b>	The aim of the course is to enable students to become competent evaluators of voice quality, to gain practical experience in using protocols for the evaluation of voice and speech as well as to develop the ability to evaluate the aesthetic aspect of voices. The students will also be able to apply exercises for voice and pronunciation in individual and group work. In addition, they will be familiar with the acoustic correlates of various voice features.
<b>Teaching methods</b>	Lectures, exercises, combined e-learning
<b>Assessment methods</b>	Oral and written exam, evaluation of student performance during exercises

## Learning outcomes

1. Determine the phonetic status of a voice (healthy, normal, pleasant and dysphonic)
2. Correlate timbre quality with voice posturing
3. Classify voices on the basis of acoustic spectral areas
4. Explain the protocols for voice evaluation
5. Interpret the protocol of the vocal voice profile
6. Calculate the vocal tract size on the basis of F4
7. Calculate the average fundamental frequency of a voice
8. Compare different voice posturings and determine phonation types
9. Differentiate glottal and supraglottal posturing
10. Successfully select the appropriate voice protocol

## Content

1. Lecture – Voice pedagogy; introduction provides the definition of the term orthophony and the aspects of voice covered by the subject
2. Lecture – Descriptive and indexical reference to voice quality; analytical evaluations of voice in Cicero's and Quintilianus' works are related to the current indexical classification
3. Lecture – Phonetic determination of voice and indexical characteristics of voice; vocal posturing; narrower definition of the quality of voice as an organic and phonetic component; more detailed classification of phonatory types into simple types, creaky and breathy as well as complex phonatory types
4. More detailed classification of phonatory types into simple types, creaky and breathy as well as complex phonatory types.
5. Lecture – Supraglottal posturing of the vocal tract; posturing terminology in longitudinal changes of the vocal tract, transversal positioning (e.g. labialization, pharyngealization, tongue positioning)
6. Lecture – Protocol of the vocal profile analysis; mastering the protocol for the assessment of vocal forms of voice and speech
7. Lecture – Aesthetics of voice; definitions of the terms aesthetics of voice and fashionable voice; the relationship between aesthetic and semantic information in the timbre
8. Lecture – Voice care and lifestyle; questionnaires about voice care (problem description, lifestyle, voice use); the parameters of the latter are correlated with average acoustic parameters
9. Lecture – Initiation; breathing posture; the relationship between breathing and subglottal pressure,

- inspiratory and expiratory muscles
10. Lecture – Voice exercises: principles and order of exercises for voice and pronunciation; starting with the wider theoretical framework of various types of voice exercises (miofunctional, alternative, warm-up and cool-down exercises, accent therapy), with particular emphasis on phonetic exercises for voice and pronunciation
  11. Lecture – Extended phonation and vibrotactile feedback; explanation of extended phonation and phonation with enhanced self-listening and associated effects; particular emphasis on chest register and creaky voice
  12. Lecture – Synthesis of exercises and speech warming up  
The exercises are summarized in a special integrated exercise that represents a synthesis of the exercises for voice and pronunciation. Examples are used to explain the reliance of speech on the lower breathing space, breastbone vibrations, anterior palatine point, and enhanced self-listening.
  13. Lecture – Preparations for the exam – Brief revision  
Systematic accelerated recapitulation of the material covered, with special emphasis on possible exam questions. The questions are briefly analyzed and attention is paid to the relevant questions in the book Timbar. Instructions are provided on how to study the material covered in the course so as to pass the exam successfully.
  14. Lecture – Voice posturing in the arts; various types of voice posturing are discussed in terms of the universal aesthetic criterion in different areas.
  15. Written exam

# Phonetic transcription

<b>Name</b>	Phonetic transcription
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	5
<b>ID</b>	#1658
<b>Semesters</b>	Summer
<b>Teachers</b>	Ines Carović, PhD, Assistant Professor (primary, L, S, SE)
<b>Hours</b>	Lectures 15 Seminar 30 Speech exercises 15
<b>Prerequisites</b>	None
<b>Goal</b>	The aim of the course is to enable students to get acquainted with the principles of phonetic transcription as well as to acquire skills for good phonetic listening and transcription of different speech samples, including Croatian standard and dialects, and different foreign languages. In the seminar, students present phonetic systems of different languages and their transcription, and they individually gather examples of less known languages. They develop perception, production and transcription skills through practice. The skills of speech status evaluation of different speakers are developed.
<b>Teaching methods</b>	Direct instruction: teaching through lectures/seminars/exercises; presentations; classroom discussion
<b>Assessment methods</b>	Class attendance, preliminary exam, seminar paper, written exam, oral exam

## Learning outcomes

1. Know and use International Phonetic Transcription (IPA) signs
2. Perceptually analyse and transcribe typical speech (segments and suprasegments)
3. Apply phonetic transcription in sentence prosody.

## Content

1. Principles and development of phonetic transcription
2. Transcription of non-segmental characteristics of speech (stress, tone, prosody)
3. Transcription of phonation and respiratory characteristics of speech
4. Articulatory characteristics and transcription of plosives
5. Articulatory characteristics and transcription of affricates and fricatives
6. Articulatory characteristics and transcription of nasals, laterals and trills
7. Articulation characteristics and transcription of approximants and vowels
8. Articulation characteristics and transcription of clicks and phonemes articulated by multiple articulatory gestures
9. Transcription of speech disorders
10. Different transcription systems
11. Perspectives of transcription development
12. Letter (pictogram, ideographic, phonetic, alphabetic); relationship between speech and letters.
13. Speech and mental representation
14. Communication (parts of the communication process); language and language coding.
15. Definition of semiotics as a science; sign (symbol, references, referents, sign models, sign components, sign typology and sign systems).

# Phonetics and phonology

<b>Name</b>	Phonetics and phonology
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	3
<b>ID</b>	51306
<b>Semesters</b>	Summer
<b>Teachers</b>	Diana Tomić, PhD, Assistant Professor (primary, L) Veno Volenec, PhD, Lecturer (L)
<b>Hours</b>	Lectures 30
<b>Prerequisites</b>	None
<b>Goal</b>	The aim of this course is to introduce students to the following topics: phonology as a linguistic discipline; the development of phonological theories, the relationship between phonetics and phonology (phoneme-sound dichotomy), distinctive features, phonotactics, phonological processes, and the concept of covert contrast.
<b>Teaching methods</b>	Lectures, mixed e-learning
<b>Assessment methods</b>	Continuous evaluation, written and oral exams

## Learning outcomes

1. Define basic concepts in phonetics and phonology.
2. Compare phonological theories.
3. Apply different classifications of distinctive features in phonological descriptions.
4. List phonological processes.
5. Define covert contrast.

## Content

1. Introduction – definition of phonetics and phonology.
2. Introduction to phonetics.
3. Introduction to phonology.
4. Phonetics-phonology interface.
5. Phonological theories 1 – from the classical period to structuralism.
6. Phonological theories 2 – structuralism.
7. Phonological theories 3 – generative phonology and post-SPE theories.
8. Phonological theories 4 – optimality theory.
9. Distinctive features in phonological theories.
10. Phonological theories 5 – cognitive phonology and other functional approaches to phonology.
11. The phonology of Croatian language.
12. The syllable in phonology.
13. Child phonology and phonological processes.
14. Covert contrast.
15. Continuous evaluation.

# Psychoacoustics - seminar

<b>Name</b>	Psychoacoustics - seminar
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	5
<b>ID</b>	124279
<b>Semesters</b>	Summer
<b>Teachers</b>	Elenmari Pletikos Olof, PhD, Associate Professor (primary, S)
<b>Hours</b>	Seminar 30
<b>Prerequisites</b>	None
<b>Goal</b>	The aim of this course is to introduce basic psychoacoustic concepts and understanding of the comprehensive physical and cognitive issues related to sounds and listening. Students carry out their own pilot study on a selected psychoacoustic topic.
<b>Teaching methods</b>	Short interactive lectures, seminar discussions, group work, experiments.
<b>Assessment methods</b>	Seminar research project, written and oral exam.

## Learning outcomes

1. Explain the basic psychoacoustic concepts: pitch, loudness, timbre, masking, and localization of sound source in space
2. Independently plan and implement scientific research in the field of phonetic sciences
3. Apply psychoacoustic knowledge in the design of acoustic stimuli, experimental procedures and the interpretation of results
4. Design experiments with a speech signal
5. Critically evaluate the scientific literature in the field of phonetic sciences
6. Present the results and relevant research conclusions in the field of phonetic sciences

## Content

1. Course introduction: aim, student seminars and evaluation; overview of areas of interest in the field of psychoacoustics
2. Pitch; dependency on fundamental frequency, intensity and duration; semitone, interval, octave
3. Loudness; decibel scale, phon and son
4. Timbre; selecting a research topic
5. Sound masking; selecting a research topic
6. Localization of sound in space
7. Presentation of literature relevant for the research topic
8. Presentation of literature relevant for the research topic
9. Formulation of research questions and research hypotheses
10. Designing the experiment
11. Conducting a pilot research
12. Analysis of data
13. Presentation of research results
14. Submission of written seminar paper
15. Evaluation of the teacher and the course. Evaluation of the individual student progress

## Public speaking skills

<b>Name</b>	Public speaking skills					
<b>Organizational unit</b>	Department of Phonetics					
<b>ECTS credits</b>	4					
<b>ID</b>	225465					
<b>Semesters</b>	Summer					
<b>Teachers</b>	Gabrijela Kišiček, PhD, Associate Professor (primary, L, S) Ines Carović, PhD, Assistant Professor (primary, L, S)					
<b>Hours</b>	Lectures					15
	Seminar					15
<b>Prerequisites</b>	None					
<b>Goal</b>	The main goal of is to prepare students for efficient public speaking which includes both content and speech delivery. Students will be introduced to five rhetorical cannons and basic rules for efficient public speaking. During the course students will practice and rehearse each of the cannons. Further on, the goal is to master the rhetorical rules for participating efficiently in monological and dialogical rhetorical genres. The basic goal is to improve rhetorical skills and prepare students for future occupation and professional carrier.					
<b>Teaching methods</b>	Lectures Seminars					
<b>Assessment methods</b>	Delivery of specific rhetorical genres	-				30%
	Written exam	-				50%
	Activities and class attendance	-	10			%
	Paper presentation - 10%					

### Learning outcomes

1. sum up all parts of speech structure and illustrate with example
2. differ and recognize rhetorical genres
3. detect and name argument schemes
4. detect and name most frequent fallacies
5. detect and explain rules of efficient meetings
6. sum up and classify nonverbal signs
7. detect and classify negotiations genres
8. detect and classify specific rhetorical genres
9. prepare and deliver monologue following rhetorical rules
10. participate in a dialogue following rhetorical rules

### Content

1. Introduction to rhetoric - historical overview with the intent to emphasize the relation between society and rhetoric. Overview of rhetorical education - from sophists and Roman rhetoric to medieval universities and contemporary rhetoric.
2. Contemporary approaches to rhetoric - importance of an audience and situation on rhetorical effectiveness. Perelman`s approach to rhetoric, particular and universal audience.
3. Rhetorical genres - historical and contemporary oversight. Contemporary genres - monologues and dialogues.
4. Monologue - speech preparation (inventio, dispositio, elocutio, memoria, pronuntiatio)
5. Inventio - designing the standpoint, argument support, differing between weak and strong arguments, differing between legitimate arguments and fallacies
6. Dispositio - speech structure (introduction, narration, argumentation, conclusion), argument distribution
7. Elocutio - speech style and figurative of speech, elegance and language
8. Pronuntiatio - effective speech delivery, basics of nonverbal communication

9. Delivery of a monologue - analysis and evaluation
10. Dialogue - meeting. Rhetorical rules for effective meeting
11. Dialogue - brainstorm. Specific genre of a meeting with the intent of solving the problem.
12. Dialogue - negotiation. Rhetorical rules for effective planning, organizing participating at the negotiation.
13. Specific rhetorical genres - speeches in special occasion. Rhetorical characteristics of occasional speaking (historical and contemporary overview). Delivery of special occasions speech, analysis and evaluation.
14. Specific rhetorical genres - impromptu speech. Rules for efficient improvisation. Analysis and evaluation of student speeches. Addressing the potential shortcomings and advantages of every specific student.
15. Specific rhetorical genres - speaking in media: media statement, commentary...Rhetorical rules for efficient media appearance.

# Rhetoric

<b>Name</b>	Rhetoric
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	6
<b>ID</b>	51321
<b>Semesters</b>	Summer
<b>Teachers</b>	Iva Bašić, PhD, Assistant Professor (primary, S) Gabrijela Kišiček, PhD, Associate Professor (primary, L)
<b>Hours</b>	Lectures 30 Seminar 30
<b>Prerequisites</b>	To pass course it is necessary to attend course General Phonetics
<b>Goal</b>	The aim of the course is to acquaint students with the basic rhetorical rules, to acquire basic speaking skills and public speech analysis skills. The goal is to instruct the student in rhetorical norms and prepare them for work in the public speaking profession by mastering the basic rhetorical skills.
<b>Teaching methods</b>	Lectures, seminars and workshops, student tasks and mentoring work
<b>Assessment methods</b>	Class attendance – 10%; speeches – 30%; reading/research – 10%; written exam – 50%

## Learning outcomes

1. Enumerate the elements of audience profiling
2. Enumerate and use examples to explain the elements of initial speech design
3. Enumerate and illustrate the elements of speech composition
4. Enumerate and exemplify the basic concepts of argumentation
5. Name and recognize eristical tactics
6. Enumerate and illustrate the rhetorical characteristics of good and bad ceremonial speeches
7. Name the most important rhetoricians (historical and contemporary)
8. Name, recognize and apply rhetorical figures in speech
9. Deliver public speech according to adopted rhetorical rules
10. Prepare a lecture in the field of public speaking

## Content

1. Introduction to the rhetoric; definition and features of public speech; distribution of student papers and instructions for their speeches
2. Elements of the public speech design – five basic dimensions; rules for speech composition
3. Standpoint – formal and substantive rules; types of claims; practicing designing standpoints; delivering student papers (10-minute speeches) – Aristotle, Cicero
4. A historical review of rhetoric, delivering student papers (10-minute speeches) – Quintilian, Meyer
5. Argumentation; basic concepts; evidence, delivering student papers (10-minute speeches) – Fahenstock & Secor, Groarke & Tindale
6. Argumentation; basic concepts; five types of argumentative connections, delivering student papers (10-minute speeches) – Škarić, Weston, Walton
7. Fallacies, delivering student papers (10-minute speeches) – Tindale, Schopenhauer
8. General Toulmin model, delivering student papers (10-minute speeches) – Toulmin, Petrović
9. Perelman's new rhetoric – argumentation by merging and separating and imitating formal logic; topics, delivering student papers (10-minute speeches) – Perelman, Hasanbegović
10. Humor in public speaking, delivering student papers (10-minute speeches) – Bergson, Jaffe
11. Rhetorical figures; delivering student papers (10-minute speeches) – Freely & Steinberg, Lucas
12. Negotiations; rhetoric in the media, delivering student papers (10-minute speeches) – Tudor, Nierenberg
13. Ceremonial speeches, delivering student papers (10-minute speeches) – Osborn & Osborn, Nelson
14. Delivering 3-minute speeches, analysis and evaluation of 3-minute speeches

15. Repetition and written exam

# Rhetoric

<b>Name</b>	Rhetoric
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	4
<b>ID</b>	#1660
<b>Semesters</b>	Summer
<b>Teachers</b>	Iva Bašić, PhD, Assistant Professor (primary, L, S) Gabrijela Kišiček, PhD, Associate Professor (primary, L)
<b>Hours</b>	Lectures 30 Seminar 30
<b>Prerequisites</b>	None
<b>Goal</b>	The aim of the course is to acquaint students with the basic rhetorical rules, to acquire basic speaking skills and public speech analysis skills. The goal is to instruct the student in rhetorical norms and prepare them for work in the public speaking profession by mastering the basic rhetorical skills.
<b>Teaching methods</b>	Lectures, seminars and workshops, student tasks and mentoring work
<b>Assessment methods</b>	Class attendance – 10%; speeches – 30%; reading/research – 10%; written exam – 50%

## Learning outcomes

### Content

1. Introduction to the rhetoric; definition and features of public speech; distribution of student papers and instructions for their speeches
2. Elements of the public speech design – five basic dimensions; rules for speech composition
3. Standpoint – formal and substantive rules; types of claims; practicing designing standpoints; delivering student papers (10-minute speeches) – Aristotle, Cicero
4. A historical review of rhetoric, delivering student papers (10-minute speeches) – Quintilian, Meyer
5. Argumentation; basic concepts; evidence, delivering student papers (10-minute speeches) – Fahenstock & Secor, Groarke & Tindale
6. Argumentation; basic concepts; five types of argumentative connections, delivering student papers (10-minute speeches) – Škarić, Weston, Walton
7. Fallacies, delivering student papers (10-minute speeches) – Tindale, Schopenhauer
8. General Toulmin model, delivering student papers (10-minute speeches) – Toulmin, Petrović
9. Perelman's new rhetoric – argumentation by merging and separating and imitating formal logic; topics, delivering student papers (10-minute speeches) – Perelman, Hasanbegović
10. Humor in public speaking, delivering student papers (10-minute speeches) – Bergson, Jaffe
11. Rhetorical figures; delivering student papers (10-minute speeches) – Freely & Steinberg, Lucas
12. Negotiations; rhetoric in the media, delivering student papers (10-minute speeches) – Tudor, Nierenberg
13. Ceremonial speeches, delivering student papers (10-minute speeches) – Osborn & Osborn, Nelson
14. Delivering 3-minute speeches, analysis and evaluation of 3-minute speeches
15. Repetition and written exam

# Rhetorical Argumentation

<b>Name</b>	Rhetorical Argumentation		
<b>Organizational unit</b>	Department of Phonetics		
<b>ECTS credits</b>	6		
<b>ID</b>	215530		
<b>Semesters</b>	Winter		
<b>Teachers</b>	Gabrijela Kišiček, PhD, Associate Professor (primary, L, S)		
<b>Hours</b>	Lectures	30	
	Seminar	30	
<b>Prerequisites</b>	None		
<b>Goal</b>	The aim of this course is to improve the argumentation skills of the students, expand knowledge on argumentation, and create habits and a culture of using arguments when defending standpoints in a discussion. Further on, the goal is to provide students with the basis of argumentation theory, skills to analyze and evaluate argumentative discourse. The final goal is to produce students who will be competent teachers of argumentation.		
<b>Teaching methods</b>	Lectures	–	theoretical foundations of argumentation
	Seminars	–	analysis of an argumentative discourse
<b>Assessment methods</b>	Written exam	–	50%
	Seminar paper	–	30%
	Presentation and discussion on a specific topic from the field of argumentation – 10%		
	Analysis and evaluation of an argumentative discourse – 10%		

## Learning outcomes

1. Detect and identify different types of arguments
2. Detect and identify different types of fallacies
3. Identify and evaluate different approaches to argumentation (rhetorical, logical, pragma-dialectical, multimodal)
4. Critically analyze the argumentation in a public discourse
5. Evaluate and assess different argumentative discourses (political, scientific, religious)
6. Create, plan and conduct courses for argumentation skills improvement
- 7.

## Content

1. a) Domain of argumentation: definitions, different perspectives and approaches to studying argumentation, differences between rhetoric and dialectic, introduction to the most important authorities in the field of argumentation (Aristotle, Toulmin, Perelman, Wanton, Škarić, van Eemeren)  
b) Historical roots of argumentation (probability, kairos, ethos, pathos, logos)
2. a) Pragma-dialectical approach to argumentation – advantages and disadvantages  
b) Exercise – pragma-dialectical analysis of argumentation
3. a) Logical approach to argumentation (argumentation theory) – differences between enthymeme and syllogism; differences between persuasion and argumentation  
b) Informal logic approach to argumentation – RSA evaluation of an argument
4. a) Argument support (evidence and reasoning)  
b) Exercise: detecting and identifying argument types in the analysis of public speech
5. a) Argumentation of value claims  
b) Exercise: argumentation analysis of artistic discourse (film, literary, theatre critics)

6. a) Argumentation of claims about the nature of things and claims on policy proposals  
b) Exercise: argumentation analysis of political discourse (on the examples of political comments and speeches)
7. a) Argumentation of causal claims  
b) Exercise: implementation of Mills methods in the argumentation analysis
8. a) Using topoi in argumentation – introduction to the theory of topoi, different classifications of topoi through the history (from Aristotle and Progymnasmata to Vivegh, Perelman and contemporary argumentation scholars: Keinpointer, Zompetti, Wodak, Walton...)  
b) Exercise: analysis of epideictic oratory
9. a) Toulmin approach to argumentation – characteristics of his model of argument  
b) Exercise: applying Toulmin model of argument in case building
10. a) Perelman's approach to argumentation – the importance of audience, quasi-logical arguments, and arguments based on the structure of reality  
b) Exercise: applying Perelman's topoi in case building and recognizing different types of topoi in an argumentative discourse
11. a) Fallacies – definitions and classifications, the theoretical basis for detecting and identifying fallacies of diversions and irrelevance (based on Tindale's classification)  
b) Analysis of political discourse in debates and discussions
12. a) Fallacies – the theoretical basis for detecting and identifying fallacies of generalizations, ad arguments and other fallacies (based on Tindale's classification) b) exercise in fallacies detection and identification on current public argumentative discourse
13. a) Multimodal approach to argumentation – introduction to Gilbert's four modes of argument b) Exercise: analysis of arguments in everyday discourse (students' examples)
14. a) Multimodal approach to argumentation – introduction to visual argumentation, images as arguments, prosodic part of an argumentative discourse...opponents and proponents of the approach  
b) analysis of multimodal argumentative discourse and reconstruction of visual arguments (examples from advertising discourse)
15. Analysis of an argumentative discourse – detecting, identifying and evaluating fallacies, differences between strong and weak arguments (from logical and rhetorical perspective), a final evaluation of an argumentative discourse (on the example of one public speaker)

# Rhetorical genres

<b>Name</b>	Rhetorical genres
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	5
<b>ID</b>	170378
<b>Semesters</b>	Summer
<b>Teachers</b>	Elenmari Pletikos Olof, PhD, Associate Professor (primary, S, ME)
<b>Hours</b>	Seminar 30 Methodology exercises 30
<b>Prerequisites</b>	None
<b>Goal</b>	The purpose of the course is to acquire knowledge about the rules of certain rhetorical genres and to master the skill of organizing and participating in a particular genre. Based on theoretical knowledge and experience, students will learn to analyze speeches, assess the speaker's mastery, and give instructions on how to improve the structure and the performance.
<b>Teaching methods</b>	Direct instruction, teaching through seminars and exercises, presentations, classroom discussion, e-learning (Omega)
<b>Assessment methods</b>	Class attendance, preliminary exam, seminar paper, practical work. During the semester the students' work is continuously monitored and evaluated: attending classes and active participation; giving three speeches; preparation for an interview, panel discussion, debate, and meeting, two tests; written seminar; presentation of a seminar. Evaluation and grading are based on continuous students' work (1/3 tests, 1/3 written seminar, 1/3 delivered speeches and participation in dialogical genres).

## Learning outcomes

1. Explain the basic debate structure, the roles of the speakers, build the basic argument structure, organize a debate, and explain debate scoring
2. Give instructions for organizing and running a successful meeting
3. Explain and apply the rules of brainstorming and name some other problem-solving creativity techniques
4. Define negotiation, explain negotiation zone and the zone of possible agreement, name negotiating strategies and tactics
5. Name interview types, describe rules of conducting the interview, provide guidelines for interviewing, and identify and correct badly crafted questions
6. Provide instructions for composing and performing various types of speeches on special occasions, identifying and correcting the errors that can appear
7. Analyze and evaluate the structure and other rhetorical characteristics of public speeches in various rhetorical genres as some journalistic genres, speeches in parliament, speeches in educational institutions, and speeches of scientific and professional presentations
8. Find relevant literature and critically use the literature when writing a professional or scientific paper

## Content

1. Course introduction: aim, student assignments and evaluation; introduction into rhetorical genres and rhetorical concepts; topics for seminar assignments; impromptu speech: performance and analysis
2. Interview: types and rules
3. Interview: performance and analysis
4. Meeting: goal settings, technical and content preparations, types of leadership
5. Meeting: organizing and running a meeting, analysis; brainstorming and some other problem-solving creativity techniques
6. Negotiation: definitions, explaining the negotiation zone, negotiating strategies and tactics; elevator

- pitch: performance and analysis
7. Negotiation: performance and analysis; written exam 1
  8. General debate structure, competitive debates, debate as a tool in the classroom, organizing a debate, debate scoring
  9. Debate: performance and analysis
  10. Speeches for special occasions: guidelines and examples of speeches for different occasions
  11. Speeches on special occasions: performance and analysis
  12. Seminar presentations
  13. Seminar presentations
  14. Seminar assessments; written exam 2
  15. Evaluation of the teacher and the course; evaluation of the individual student progress

# Speech and audio technology

<b>Name</b>	Speech and audio technology	
<b>Organizational unit</b>	Department of Phonetics	
<b>ECTS credits</b>	5	
<b>ID</b>	#1659	
<b>Semesters</b>	Summer	
<b>Teachers</b>	Nikolaj Lazić, PhD, Full Professor (primary, L, S, LE)	
<b>Hours</b>	Lectures	15
	Seminar	15
	Laboratory exercises	30

**Prerequisites** None

**Goal** The aim of the course is to train students for independent professional work and research of speech and sound in general, using available computer technology. Special emphasis is placed on the use of computers in sound analysis, processing and synthesis.

**Teaching methods** Lectures, seminars, laboratory exercises

**Assessment methods** The exam is administered in two parts: practical work on the computer and oral exam

## Learning outcomes

1. Explain the process of sound recording (conversion of sound energy into electricity through microphones and amplifiers).
2. Explain the process of sound production on a computer
3. Explain the differences between digital and analog media
4. Explain the conversion of analog to digital audio signal.
5. Compare the characteristics of different media and audio storage formats.
6. Apply acoustic filters to the sound signal.
7. Acoustically analyze the harmonic part of speech sound and conduct a fundamental formant synthesis with the purpose of connecting the production and perception of speech
8. Explain different ways of synthesizing speech on a computer

## Content

1. L: Introduction to the course; analog and digital sound representation  
S: History of sound recording; analog and digitally recorded formats  
E: introduction to equipment; basics of working with a computer; introduction to the Praat program
2. L: Sound; transmission of sound through the medium  
S: Reflection and refraction of sound  
E: Generating sound on the computer; creating pure sine tone; recording and playback of sound on the computer (microphones and speakers)
3. L: Resonant frequencies; F0  
S: Nyquist frequency, equalization of different frequencies after sampling  
E: Sound processing; annotating sound segments; F0; intensity
4. L: Spectrograms; FFT  
S: Recording studio in the Department of Phonetics  
E: Spectrograms on the computer; windowing of the audio signal for FFT; sound; LTAS
5. L: Filters; analog filters; digital filters  
S: Formants; LPC  
E: Preparation of the analyzed material for presentation; drawing spectrograms; F0 and other materials on a computer
6. L: Mechanical sound recording on gramophone records  
S: Record rotation speeds and effect on the sound; Stereo

- E: Recording from a turntable to a computer
7. L: Recording on magnetic media; tapes, cassettes, DAT  
 S: Differences among magnetic materials used for recording sound  
 E: Analysis of the sound recorded on a computer
8. L: Recording on optical media; CD; record structure  
 S: CD-text and other file standard extensions  
 E: Transferring audio from a CD to a computer; analog and digital
9. L: Minidisk; basic concepts of psychoacoustics for Minidisk  
 S: ATRAC and record structure  
 E: Forming F0 contour line and duration contour line in Praat; PSOLA
10. L: MP3  
 S: Other formats of sound recording based on psychoacoustics  
 E: Convert mp3 and other formats to a format suitable for analysis in Praat
11. L: DVD  
 S: DVD audio formats  
 E: Extract audio from a DVD
12. L: Articulatory synthesis  
 S: Globally used methods and research related to articulatory synthesis  
 E: Examples of articulatory synthesis in Praat. scripts in Praat
13. L: Formant speech synthesis  
 S: Vocal characteristics and parameters required for synthesis  
 E: Klatt synthesizer formant synthesis
14. L: Concatenation speech synthesis; diphone speech synthesis; MBROLA  
 S: Sound base repertoire for diphone synthesis; SAMPA  
 E: Diphone synthesis using the Mbrola system
15. L: Artificial neural networks  
 S: Artificial neural networks in sound analysis  
 E: Practical work with artificial neural networks

# Speech and language

<b>Name</b>	Speech and language	
<b>Organizational unit</b>	Department of Phonetics	
<b>ECTS credits</b>	3	
<b>ID</b>	#1662	
<b>Semesters</b>	Winter	
<b>Teachers</b>	Jelena Vlašić Duić, PhD, Full Professor (primary, L, S)	
<b>Hours</b>	Lectures	30
	Seminar	15
<b>Prerequisites</b>	None	
<b>Goal</b>	The aim of this course is to provide relationship between phonetics and linguistics, between linguistic and speech sign and to analyze speech and language functions, explain the relationship between sounds and phonemes and sound changes.	
<b>Teaching methods</b>	Lectures and seminars.	
<b>Assessment methods</b>	Continuous evaluation, seminar assignment, colloquium, written exam.	

## Learning outcomes

1. Explain the difference between linguistics and phonetics.
2. Explain the difference between speech and language and their interdependence.
3. Distinguish speech from language units.
4. Analyze speech functions.
5. Analyze the types of speech sign
6. Explain the relationship between phonemes and sounds.
7. Explain sound changes.

## Content

1. L: Introduction to the course.  
S: Literature review. Seminar assignments.
2. L: Phonetics and linguistics (areas and approaches).  
S: Linguistic Phonetics.
3. L: Semiology. Definition.  
S: Linguistic and speech sign (definition, principles; motivation).
4. L: Similarities and differences between linguistic and speech sign.  
S: Types of speech signs.
5. L: Language functions.  
S: Recognition of language functions.
6. L: Speech functions.  
S: Recognition of speech functions.
7. L: Basic speech units. Basic language units.  
S: Speech layers: voice and text. Archetypal speech.
8. L: Preliminary exam.  
S: Student self-assessment.
9. L: Phoneme and sound (realizing phonemes in the Croatian standard language).  
S: Different ways of realizing phonemes.
10. L: Introduction to morphonology.  
S: Typology of sound changes.
11. L: Phonologically conditioned sound changes.  
S: Phonologically conditioned sound changes at the orthographic and orthoepic level.
12. L: Adding sounds.  
S: Sound changes in speaker pronunciation and consciousness.

13. L: Morphologically conditioned sound changes. Palatalizations. Jotation. Vowel changes.  
S: Non-implementation of sibilization.
14. L: Ije in long syllable.  
S: Pronunciation of a contemporary Croatian ije. Analysis of morphologically conditioned sound changes in the text.
15. L: Preliminary exam.  
S: Student self-assessment and course assessment.

# Speech development

<b>Name</b>	Speech development
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	5
<b>ID</b>	51614
<b>Semesters</b>	Winter
<b>Teachers</b>	Diana Tomić, PhD, Assistant Professor (primary, L, S)
<b>Hours</b>	Lectures 30 Seminar 30
<b>Prerequisites</b>	None
<b>Goal</b>	The aim of the course is to enable students to monitor and encourage typical speech development, recognize delays and potential disorders including their causes and to master the ways of overcoming them.
<b>Teaching methods</b>	Lectures, seminars, mixed e-learning
<b>Assessment methods</b>	1. Attendance – 5% of total grade 2. Two quizzes – 20% of total grade each (40% both) 3. Seminar – presentation and paper – 30% of total grade (10% for presentation and 20% for the paper) 4. Final presentation – 10% of total grade 5. Kindergarten observation notes – 5% of total grade 6. Video-test – 5% of total grade 7. Phonological processes test – 5% of total grade

## Learning outcomes

1. Explain basic theories of speech and language development
2. Describe the neurophysiological foundations of speech and language development
3. Recognize and describe deviations from typical speech and language development with various causes (hearing impairment, autism, Down syndrome, phonological disorders, special language impairment)
4. Identify and describe developmental speech and language milestones for a particular age
5. Recognize and describe the peculiarities of speech-language development in particular contexts (twins or multilingual environment)

## Content

1. Introduction
2. Key terminology: acquisition, learning, development, milestones; key questions and dilemmas – nature vs. nurture; relations: speech and language, thought and language; neurobiological foundations of speech and language (hemispheres, lateralization, localization, dichotomies, models)
3. Neural plasticity, critical periods; theories of speech and language development; is there a speech module in brain?
4. Interactions between cognitive and speech and language development; perceptual development; elements and processes of cognitive development and cognitive organization; J. Piaget; object permanence, causality, means-goals; types of behavior (imitation, play, communication), necessary preconditions for speech and language development; child directed speech; role of parents in speech and language development
5. Individual consultations for quiz preparation; quiz 1
6. Prenatal influences on speech development, speech development from birth to 0;6 (general behavior, development of perception and production), first cry and classification of early forms of vocalizations; speech development from 0;6 to 1;0 (general behavior, development of perception and production), speech milestones in the first year
7. Speech development from 1;0 to 2;0, characteristics of speech in the second year; speech development from 2;0 to 4;0 and from 4;0 to 7;0 (general behavior, perception, production); word classes and

common mistakes

8. Speech sound development/phonological progression, phonological processes, onomatopoeias, typical phonetic development; twins and twin speech
9. Speech development in bilingual environment, bilingualism, and multilingualism Developmental speech and language disorders in general; specific disorders influencing speech and language development (hearing impairment, ADHD, autism, SLI, Down Syndrome, mental retardation, speech and language disorders)
10. Individual consultations for quiz preparation; quiz 2
11. Seminars: students' presentations
12. Seminars: students' presentations
13. Seminars: students' presentations
14. Seminars: students' presentations
15. Video-test, phonological processes test, final presentations

## Speech disorders and their rehabilitation methods

<b>Name</b>	Speech disorders and their rehabilitation methods
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	5
<b>ID</b>	124275
<b>Semesters</b>	Summer
<b>Teachers</b>	Diana Tomić, PhD, Assistant Professor (primary, L) Adinda Dulčić, PhD, Associate Professor (L, E)
<b>Hours</b>	Lectures 30 Exercies 30
<b>Prerequisites</b>	None
<b>Goal</b>	The aim of the course is to provide an introduction to speech, language, reading, and writing disorders.
<b>Teaching methods</b>	Lectures and seminars
<b>Assessment methods</b>	Oral and written exams

### Learning outcomes

1. Define and classify speech and language disorders.
2. Contrast causes of various disorders (speech, language, voice, reading and writing) and illustrate the causes based on typical symptoms (i.e., underdeveloped speech, speech sound disorders, dysphonia, stuttering/balbuties, batharismus, dysphasia, aphasia).
3. Relate speech disorders with potential causes (i.e., hearing impairment, mental retardation, blindness, autism, bilingualism, sociocultural deprivation etc.).
4. Assess treatment approach and make recommendations for a particular speech disorder.
5. Organize rehabilitation for a particular speech disorder.

### Content

1. Introduction.
2. Overview of the disorder classification following the Croatian legislature.
3. Developmental delays, difficulties, and disorders.
4. Early communication and child development.
5. Speech development.
6. Speech and language difficulties/disorders – terminology, definitions, and classification.
7. Diagnosing speech disorders.
8. Articulatory and phonological disorders.
9. Disorders of speech rhythm and tempo (balbuties and batharismus).
10. Specific language impairment.
11. Reading and writing disorders.
12. Cerebral damage and speech disorders.
13. Verbotonal method in therapy of speech disorders.
14. Speech and language disorders in autistic spectrum.
15. ADHD/ADD – developmental characteristics.

# Speech exercises 1

<b>Name</b>	Speech exercises 1
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	2
<b>ID</b>	#879
<b>Semesters</b>	Winter
<b>Teachers</b>	Elenmari Pletikos Olof, PhD, Associate Professor (primary, SE) Jelena Vlašić Duić, PhD, Full Professor (primary, SE)
<b>Hours</b>	Speech exercises                      30
<b>Prerequisites</b>	None
<b>Goal</b>	The aim of the course is for students to practice basic phonetic skills (imitation, pronunciation precision and fluency) in order to master their speech apparatus. These exercises are the basis for the identification of Croatian standard and non-standard vowels, consonants, word prosody and intonation units.
<b>Teaching methods</b>	Exercises and assignments: listening tasks, imitation and explanation.
<b>Assessment methods</b>	Students work is monitored and evaluated continuously: attending classes, active practice in class, assignments related to exercises, short reports on the literature.

## Learning outcomes

1. Self-awareness of the initial pronunciation status.
2. Demonstrate imitation exercises of intonation and rhythmic patterns of speech.
3. Demonstrate and explain exercises for diction, precision, and fluency.
4. Demonstrate and explain exercises for standard neutral pronunciation of prosodic words, vowels, and consonants.

## Content

1. Introduction to the course: learning outcomes, methods, assignments.
2. Initial recording of the students and a short self-analysis.
3. Initial recording of the students and a short self-analysis.
4. Imitation of speech patterns in rhythm and intonation.
5. Imitation of speech patterns in rhythm and intonation.
6. Exercises for diction, precision and fluency.
7. Exercises for diction, precision and fluency.
8. Exercises for diction, precision and fluency.
9. Imitation and identification of standard and non-standard vowels and consonants.
10. Imitation and identification of standard and non-standard vowels and consonants.
11. Imitation and identification of standard and non-standard Croatian word prosody.
12. Imitation and identification of standard and non-standard Croatian word prosody.
13. Imitation and identification of standard and non-standard Croatian word prosody.
14. Testing learning outcomes: students demonstrate and explain exercises diction, word prosody and fluency.
15. Testing learning outcomes: students demonstrate and explain exercises diction, word prosody and fluency.

## Speech exercises 2

<b>Name</b>	Speech exercises 2
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	2
<b>ID</b>	#1929
<b>Semesters</b>	Summer
<b>Teachers</b>	Gabrijela Kišiček, PhD, Associate Professor (primary, S, SE)
<b>Hours</b>	Seminar 15 Speech exercises 15
<b>Prerequisites</b>	None
<b>Goal</b>	The main goal of this course is to introduce specific parts of speech status, to elaborate it and prepare students for expert analysis of a speech and detecting potential weaknesses and shortcomings in a speech status. One of the goals is to prepare students for independent evaluation of speech status as well as designing and implementing speech exercises to improve speaking skills in general.
<b>Teaching methods</b>	1. exercises 2. workshops
<b>Assessment methods</b>	1. class attendance 2. analysis of a speech status (in the form of an essay) 3. practical work

### Learning outcomes

1. explain elements of speech status
2. evaluate diction sufficiency
3. evaluate voice quality
4. recognize deflections from standard vowel and consonant pronunciation
5. recognize deflections from standard word prosody
6. evaluate expressiveness of the speaker
- 7.
8. conduct speech exercises to improve shortcomings of a speech status

### Content

1. course introduction; introduction to the speech status survey
2. speech status - voice quality, perceptive assessment of voice quality
3. - diction, perceptive assessment of diction
- 4.
5. speech status - vowels and consonants, deflections from standard pronunciation; perceptive assessment and detection of deflections
- 6.
7. speech status - deflections from word accent norms; description of prosody system of a speaker
8. analysis and evaluation of the speakers speech status (on the example of media speakers), detecting potential shortcomings of a speaker
9. analysis and evaluation of the speakers speech status (on the example of media speakers), detecting potential shortcomings of a speaker
10. analysis and evaluation of the speakers speech status (on the example of media speakers), detecting potential shortcomings of a speaker
11. types of reading (with interpretation or neutral); interpretation of the text exercises
12. preparation for the interpretation of a specific text; studio recording
13. analysis of a recording (peer review); suggestions for exercises (based on peer review)
14. speech status of a student; conducting specific speech exercises
15. delivery of short rhetorical genres considering improvement of all the elements of the speech status,

analysis of speech delivery

# Speech perception

<b>Name</b>	Speech perception
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	5
<b>ID</b>	#881
<b>Semesters</b>	Summer
<b>Teachers</b>	Ana Vidović Zorić, PhD, Assistant Professor (primary, L, P) Arnalda Dobrić, PhD, Assistant Professor (primary, L, P)
<b>Hours</b>	Lectures 30 Practicum 15
<b>Prerequisites</b>	None
<b>Goal</b>	This course is a general introduction to the cognitive and physiological mechanisms of speech perception, and anatomical basis as well. It covers areas such as multimodal perception, categorical perception, perception of prosodic features, perception of individual variations, perception in different age groups, perception in atypical cases.
<b>Teaching methods</b>	Lectures, seminars, presentations, classroom discussion.
<b>Assessment methods</b>	Class attendance, preliminary exam, seminar paper, written exam, oral exam; standard grading.

## Learning outcomes

1. Define basic concepts in the perception of sound and speech.
2. Connect the acoustic and auditory parameters of speech sound.
3. Explain theories of perception of pitch and intensity in the context of physiology of auditory processing.
4. Explain theories of the development of speech perception.
5. Explain the perception of sound and speech in people with hearing impairments.

## Content

1. Course introduction - organization, literature, assignments. Defining perception, the difference between perception and sensation, defining basic concepts: discrimination, identification, interpretation, methods of examining speech perception.
2. Perception of speech segments: vocals and sonorants.
3. Perception of obstruents: categorical perception.
4. Perception of prosodic features.
5. Speech perception and speech variability: different speakers, pronunciation, noise, normalization.
6. Perception of speech in a foreign language.
7. Multimodal perception in speech; McGurk effect.
8. Development of speech perception - phylogenetic and ontogenetic approach.
9. Perception of speech in different age groups: children, adults, elderly population.
10. Speech perception in people with hearing impairment.
11. Speech perception and neurological impairment: auditory agnosia, aphasia, cortical deafness.
12. Speech perception in relation to the perception of non-speech sounds: evidence based on duplex perception, compensation for co-articulation, dichotic listening, categorical perception.
13. The relationship between speech perception and production; motor theory of speech perception.
14. Other theories and models of speech perception: analysis by synthesis, auditory theory, neural feature detectors, theory of acoustic invariance, the cohort theory, trace model.
15. Concluding remarks.

# Speech production research

<b>Name</b>	Speech production research
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	5
<b>ID</b>	117514
<b>Semesters</b>	Winter
<b>Teachers</b>	Marko Liker, PhD, Associate Professor (primary, L, S, SE) Veno Volenec, PhD, Lecturer (L, S, SE)
<b>Hours</b>	Lectures 15 Seminar 30 Speech exercises 15
<b>Prerequisites</b>	None
<b>Goal</b>	The aim of this course is to introduce instrumental kinematic techniques to phonetic research, to explain and demonstrate the procedures, and assess their application. Students devise and execute their own pilot study through a series of supervised seminar assignments.
<b>Teaching methods</b>	Lectures, seminars, and exercises
<b>Assessment methods</b>	Seminar research project, written and oral exam

## Learning outcomes

1. Explain the procedures behind instrumental kinematic techniques
2. Assess the application of instrumental kinematic techniques
3. Plan speech production research using instrumental kinematic techniques
4. Apply one of the instrumental kinematic techniques in investigating a relevant research problem
5. Critically assess the results obtained via a pilot study in the context of a relevant research context
6. Argue the application of instrumental kinematic techniques in the phonetic sciences

## Content

1. Course introduction: aim, responsibilities, and evaluation
2. Instrumental kinematic techniques 1
3. Instrumental kinematic techniques 2
4. Instrumental kinematic techniques 3
5. Pilot: research question, hypothesis, and research plan
6. Data acquisition (data recording or database choice)
7. Data preparation (annotation)
8. Data preparation (annotation)
9. Data preparation (annotation)
10. Data analysis (data reduction)
11. Data analysis (data reduction)
12. Data analysis (statistical analysis and visualization)
13. Data analysis (statistical analysis and visualization)
14. Discussion about research conclusions
15. Research project presentations

# Speech prosody

<b>Name</b>	Speech prosody
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	5
<b>ID</b>	#1935
<b>Semesters</b>	Summer
<b>Teachers</b>	Elenmari Pletikos Olof, PhD, Associate Professor (primary, L, P)
<b>Hours</b>	Lectures 45 Practicum 15
<b>Prerequisites</b>	None
<b>Goal</b>	The aim of the course is to analyze different prosodic features of speech and to connect them with acoustic parameters. The functions of prosody, individual prosodic units, and basic phonetic and phonological terms are analyzed in order to describe word prosody and sentences prosody in Croatian and in other language systems.
<b>Teaching methods</b>	lectures and exercises
<b>Assessment methods</b>	continuous monitoring, written and oral exam

## Learning outcomes

1. Define prosodic features.
2. Explain the linguistic and paralinguistics functions of prosody.
3. Explain the influence of basic sound characteristics on the perception of suprasegmental elements.
4. Describe the intonation patterns of the Croatian language.
5. Apply phonetic transcription in marking sentence prosody.
6. Classify languages according to the system of word prosody into tone, pitch and stress accent languages.
7. Explain the interaction between lexical tone and sentence intonation in Croatian.
8. Analyze basic prosodic features and interpret them in different languages.

## Content

1. Introduction to the course: learning outcomes, methods, assignments.
2. Lecture: Prosodic features and their acoustic correlates. Linguistic and paralinguistic role of prosodic features. Exercises: Perception of paralinguistic prosody.
3. Lecture: Perception of physical, physiological and other characteristics of the speaker based on prosodic features. Exercises: Analyzing the pitch in sound examples.
4. Lecture: Prosody and emotions. Exercises: Perception of emotions based on prosodic features.
5. Lecture: Universal intonation patterns and specific intonation patterns in Croatian. Exercises: Analysis of intonation units and nuclei in the Croatian.
6. Lecture: Intonation nuclei. Exercises: Analysis of intonation units and nuclei in the Croatian and transcription.
7. Lecture: Rhythm. Exercises: Analysis of rhythmic patterns in speech.
8. Lecture: Focus, speech pauses and tempo. Exercises: Analysis of pauses in speech.
9. Lecture: written exam 2. Exercises: Analysis of spectral shape and timbre perception.
10. Lecture: Timbre and spectrum. Exercises: Analysis of spectral shape and timbre perception.
11. Lecture: Word prosody in tone, pitch and stress accent languages. Exercises: Acoustic analysis of word prosody in tone, pitch and stress accent languages.
12. Lecture: Prosodic features of Croatian accents in the standard pitch accent system and in the Croatian varieties with the stress accent system. Exercises: Acoustic analysis of f0 in prosodic words.
13. Lecture: Interaction of lexical tone and sentence intonation. Exercises: Acoustic and perceptual analysis of Croatian accents in intonation.
14. Lecture: Prosody in language acquisition and teaching. Exercises: Recognizing language based on

prosodic features.

15. Lecture: Written exam 2. Exercises: Evaluation of the teacher and the course. Evaluation of the individual student progress.

# Statistics

<b>Name</b>	Statistics
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	5
<b>ID</b>	117516
<b>Semesters</b>	Winter
<b>Teachers</b>	Mirjana Tonković, PhD, Associate Professor (primary, L, E)
<b>Hours</b>	Lectures 30 Exercies 30
<b>Prerequisites</b>	None
<b>Goal</b>	The aim of the course is to enable students: to explain the basic logic of statistical approach in social sciences in general and in phonetics in particular; to choose and use appropriate descriptive and inferential statistical methods in the process of statistical data analysis; to choose an appropriate statistical method of testing differences between two or more samples; to choose an appropriate measure of the correlation between variables; to interpret results of statistical analyses; to recognize assumptions for different statistical tests depending on the type of data.
<b>Teaching methods</b>	Lectures and exercises.
<b>Assessment methods</b>	Grades from two mid-term exams and the final exam are combined into a final grade. The final exam is a written exam, oral exam is optional.

## Learning outcomes

1. Describe main characteristics of the statistical approach in science.
2. Choose and calculate an appropriate measure of central tendency from a data set.
3. Calculate an appropriate measure of data variability.
4. Transform results to z-scores.
5. Explain the logic of the null-hypothesis testing.
6. Calculate t-test and one-way analysis of variance and interpret obtained results.
7. Choose an appropriate chi-square test to test the significance of differences between distributions and interpret obtained results.
8. Choose an appropriate measure of the correlation between two variables, calculate it and interpret the obtained result.
9. Choose an appropriate non-parametric statistical test to test null-hypothesis.

## Content

1. Introduction to statistics.
2. Data distribution and normal distribution model.
3. Measures of central tendency; mean, median, mode .
4. Measures of variability: standard deviation, interquartile range, range, variance-to-mean ratio.
5. z-scores.
6. Sample and population; estimation of population parameters
7. First exam.
8. Null-hypothesis testing. Testing the difference between two means (independent samples t-test, paired-samples t-test).
9. One-way analysis of variance for independent samples.
10. Effect size and statistical power of a test.
11. Testing the difference between observed frequency distribution and expected frequency distribution (chi-square test).
12. Logic and meaning of correlation. Correlation coefficients: Spearman's rho, Pearson's r, contingency coefficient; partial correlation.
13. Second exam.

14. Most commonly used non-parametric tests.
15. Review for final exam

# Verbotonal theory

<b>Name</b>	Verbotonal theory
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	3
<b>ID</b>	225463
<b>Semesters</b>	Summer
<b>Teachers</b>	Arnalda Dobrić, PhD, Assistant Professor (primary, L) Diana Tomić, PhD, Assistant Professor (primary, L)
<b>Hours</b>	Lectures 30
<b>Prerequisites</b>	None
<b>Goal</b>	The aim of the course is to introduce students to Verbotonal theory, its key concepts, historical development, basic principles, and application contexts. The course also relates contemporary scientific findings which support foundations and principles of Verbotonal theory.
<b>Teaching methods</b>	Lectures, mixed e-learning, project assignments
<b>Assessment methods</b>	Attendance, continuous assessment, project assignments

## Learning outcomes

1. Explain the principles of Verbotonal theory and their application
2. Relate the principles of Verbotonal theory to principles of phonetics
3. Describe contexts in which Verbotonal theory is applied
4. Assess the application of Verbotonal theory in various contexts
5. List contemporary scientific evidence supporting Verbotonal theory

## Content

1. Introduction
2. The foundations of Verbotonal theory
3. Verbotonal theory – historical overview and contemporary perspective
4. Contemporary scientific evidence supporting Verbotonal theory
5. Principles of Verbotonal theory and principles of phonetic.
6. Principles of Verbotonal theory and principles of phonetics (2)
7. Application of Verbotonal theory: overview of the methods and procedure
8. Verbotonal theory and foreign language learning
9. Verbotonal theory and diagnostic procedures
10. Verbotonal theory and method applied to speech and hearing rehabilitation
11. Verbotonal theory and method applied to speech and hearing rehabilitation (2)
12. Verbotonal theory and pronunciation training method/speech correction
13. Verbotonal theory and movement applied to speech and hearing rehabilitation and pronunciation training exercises
14. Assessment of Verbotonal theory
15. Evaluation

# Voice quality

<b>Name</b>	Voice quality
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	4
<b>ID</b>	#1663
<b>Semesters</b>	Winter
<b>Teachers</b>	Iva Bašić, PhD, Assistant Professor (primary, L, SE)
<b>Hours</b>	Lectures 30 Speech exercises 15
<b>Prerequisites</b>	None
<b>Goal</b>	The aim of the course is to enable students to become competent evaluators of voice quality, to gain practical experience in using protocols for the evaluation of voice and speech as well as to develop the ability to evaluate the aesthetic aspect of voices. The students will also be able to apply exercises for voice and pronunciation in individual and group work. In addition, they will be familiar with the acoustic correlates of various voice features.
<b>Teaching methods</b>	Lectures, exercises, combined e-learning
<b>Assessment methods</b>	Oral and written exam, evaluation of student performance during exercises

## Learning outcomes

1. Work out a voice phonetic status and apply indexical terminology in the description of voice quality
2. Calculate the basic acoustic parameters for the description of voice quality and interpret deviations from average values
3. Determine phonation types
4. Determine glottal and supraglottal posturings and voice registers
5. Explain the protocols for voice evaluation
6. Implement phonetic exercises for voice and pronunciation

## Content

1. Lecture – Voice pedagogy; introduction provides the definition of the term orthophony and the aspects of voice covered by the subject
2. Lecture – Descriptive and indexical reference to voice quality; analytical evaluations of voice in Cicero's and Quintilianus' works are related to the current indexical classification
3. Lecture – Phonetic determination of voice and indexical characteristics of voice; vocal posturing; narrower definition of the quality of voice as an organic and phonetic component; more detailed classification of phonatory types into simple types, creaky and breathy as well as complex phonatory types
4. More detailed classification of phonatory types into simple types, creaky and breathy as well as complex phonatory types.
5. Lecture – Supraglottal posturing of the vocal tract; posturing terminology in longitudinal changes of the vocal tract, transversal positioning (e.g. labialization, pharyngealization, tongue positioning)
6. Lecture – Protocol of the vocal profile analysis; mastering the protocol for the assessment of vocal forms of voice and speech
7. Lecture – Aesthetics of voice; definitions of the terms aesthetics of voice and fashionable voice; the relationship between aesthetic and semantic information in the timbre
8. Lecture – Voice care and lifestyle; questionnaires about voice care (problem description, lifestyle, voice use); the parameters of the latter are correlated with average acoustic parameters
9. Lecture – Initiation; breathing posture; the relationship between breathing and subglottal pressure, inspiratory and expiratory muscles
10. Lecture – Voice exercises: principles and order of exercises for voice and pronunciation; starting with the wider theoretical framework of various types of voice exercises (miofunctional, alternative, warm-

- up and cool-down exercises, accent therapy), with particular emphasis on phonetic exercises for voice and pronunciation
11. Lecture – Extended phonation and vibrotactile feedback; explanation of extended phonation and phonation with enhanced self-listening and associated effects; particular emphasis on chest register and creaky voice
  12. Lecture – Synthesis of exercises and speech warming up  
The exercises are summarized in a special integrated exercise that represents a synthesis of the exercises for voice and pronunciation. Examples are used to explain the reliance of speech on the lower breathing space, breastbone vibrations, anterior palatine point, and enhanced self-listening.
  13. Lecture – Preparations for the exam – Brief revision  
Systematic accelerated recapitulation of the material covered, with special emphasis on possible exam questions. The questions are briefly analyzed and attention is paid to the relevant questions in the book Timbar. Instructions are provided on how to study the material covered in the course so as to pass the exam successfully.
  14. Lecture – Voice posturing in the arts; various types of voice posturing are discussed in terms of the universal aesthetic criterion in different areas.
  15. Written exam

## Word and sentence prosody

<b>Name</b>	Word and sentence prosody
<b>Organizational unit</b>	Department of Phonetics
<b>ECTS credits</b>	4
<b>ID</b>	160771
<b>Semesters</b>	Winter
<b>Teachers</b>	Elenmari Pletikos Olof, PhD, Associate Professor (primary, L, S)
<b>Hours</b>	Lectures 15 Seminar 30
<b>Prerequisites</b>	None
<b>Goal</b>	The aim of the course is to get acquainted with the basic phonetic and phonological concepts necessary to describe the intonation, rhythm and word prosody in different language systems.
<b>Teaching methods</b>	Direct instruction; teaching through seminars and exercises; presentations; classroom discussion; e-learning (Omega)
<b>Assessment methods</b>	Continuous evaluation: seminar presentation, assignments, written exam

### Learning outcomes

1. Define prosodic and suprasegmental features, define linguistic and paralinguistic functions of prosody
2. Define prosodic units: mora, syllable, prosodic word, intonation unit, utterance
3. Explain basic acoustic elements of speech and their influence on stress and accent
4. Classify languages concerning their accent system into stress, pitch-accent and tone languages
5. Explain the interaction of lexical tone and sentence intonation
6. Explain the characteristics of word prosody and sentence intonation of the Croatian standard language and some Croatian idioms

### Content

1. Course introduction: aim, learning outcomes, responsibilities and literature; defining prosodic and suprasegmental features, linguistic and paralinguistic functions of prosody; seminar assignments
2. Prosodic units: mora, syllable, prosodic word, intonation unit, utterance; intonation, rhythm, pause
3. Basic acoustic elements of speech and their influence on speech prosody; classification of languages concerning their accent system into stress, pitch-accent and tone languages
4. Acoustics, perception and transcription of Croatian accent system; pitch accent and stress accent in Croatian standard and other idioms.
5. Languages with the pitch accent system; tonogenesis
6. Tone languages
7. Languages with stress accent system
8. Sentence prosody: rhythm, pause, focus, intonation
9. Intonation: boundaries of intonational units and types of nuclei
10. Interaction of lexical tone and sentence intonation
11. Neurolinguistic research of prosody
12. Prosody and emotions
13. Prosody in language acquisition and development
14. Recapitulation; written exam
15. Evaluation of the teacher and the course; evaluation of the individual student progress.



## **Teachers**

## Aras, Ivana

**Academic degree**      doctor of philosophy  
**Title**  
**Organizational unit**      Department of Phonetics  
**CV**

## Bašić, Iva

<b>Academic degree</b>	doctor of philosophy
<b>Title</b>	assistant professor
<b>Organizational unit</b>	Department of Phonetics

### CV

Iva Bašić, PhD is a assistant professor at the Department of phonetics. She was born in 1988 in Zagreb, Croatia. She finished her primary school and general grammar school also in Zagreb. In 2006 she started her further education at the Faculty of Humanities and Social Sciences, University of Zagreb. During the undergraduate study she was a student assistant of the Department of phonetics and worked on several courses (Articulatory phonetics, Neurophonetics, Language learning and Phonetic transcription). In 2009 she received the Chancellor's Award. She finished her undergraduate education and earned the university degrees of university Bachelor in Phonetics and university Bachelor in Linguistics in 2009. The same year she continued her education and started the Masters in Phonetics and Linguistics, attending four modules. Also, she received The "City of Zagreb" University Scholarship and was awarded by the Mayor of Zagreb. In 2011 she earned the university degrees of MA in Phonetics (Scientific module and module of Speech and Hearing Rehabilitation) and Linguistics (modules of General and Applied linguistics). She was employed as a research assistant at the Department of Phonetics at the Faculty of Humanities and Social Sciences in Zagreb, in 2012.

She teaches several courses for B.A. and M.A. students (Orthoepy of the Croatian language I, Nonverbal Communication and Teaching methodologies of Phonetic care of voice and pronunciation – individual approach). In 2012 she started her Postgraduate Doctoral study of Linguistics. She was also a mentor at the 40th public speaking school for gifted high school students. At the beginning of 2013 she became the member of the Croatian Philological Society. She has participated in more than 15 international conferences. Also, she published 10 original papers and reviews. In the December of 2014 she visited forensic phonetic laboratory JP French Associates in York (UK), University of York including the forensic laboratory at the department of Linguistics and the forensic laboratory at the Metropolitan Police London. In 2017/2018 she held four public lectures. In July 2019 she became a postdoctoral research associate at the Department of Phonetics.

## Carović, Ines

<b>Academic degree</b>	doctor of philosophy
<b>Title</b>	assistant professor
<b>Organizational unit</b>	Department of Phonetics

### CV

Ines Carović was born on April 19th, 1983 in Čakovec, Croatia. She finished her primary school in Mala Subotica and general grammar school in Čakovec. In 2001 she started her further education at the Faculty of Humanities and Social Sciences, University of Zagreb and in 2007 she earned the university degrees of MA in Phonetics and Croatian language and literature. Her master thesis was Homonyms in Croatian language: the most common pairs and series. She was employed as a research assistant at the Department of Phonetics at the Faculty of Humanities and Social Sciences in Zagreb, in 2008. She teaches several courses for B.A. and M.A. students (Articulatory phonetics, Language learning and Phonetic transcription, Neurophonetics, Rhetoric for teachers). In 2008 she also started her Postgraduate Doctoral study of Linguistics (Phonetics). In 2014 she defended doctoral thesis Ultrasound study of articulation and coarticulation of Croatian vowel system. She participated in projects: *Produkcija i percepcija govora*, *Hrvatski opisni okvir referentne razine B1* and *Jednosvezačni normativni rječnik hrvatskog jezika* at Institute of Croatian Language and Linguistics. She is a team member of project *Coarticulation in Croatian speech: instrumental investigation (CROCO)*. She received Award for excellence in teaching at Faculty of Humanities and Social Sciences, silver medal at ARCA 2022 (20th edition of the International Exhibition of Inventions), the Best Science Photo Award by Croatian Science Foundation, the Award of Croatian applied linguistics society (best oral presentation of young researchers, Award of Foundation „Zlata Bartl“, Award “Najstudent Međimurja” (for the best student of Međimurje), Rector’s Award, Dean’s Award „Franjo Marković“ and Scholarship of Croatian Ministry of science, education and sport. In 2019 she became an Assistant Professor at the Department of Phonetics. She is a member of Croatian Philological Society, University of Zagreb, Croatian applied linguistics society and International Phonetic Association. She has participated in more than 20 international conferences. Also, she published 20 original papers and reviews. Ines Carović participated as an instructor and speech coach in theatre, television and on many different workshops for variety of speech professionals and nonprofessionals.

## Dobrić, Arnalda

**Academic degree**        doctor of philosophy  
**Title**                        assistant professor  
**Organizational unit**     Department of Phonetics

### CV

Arnalda Dobrić was born in Zagreb where she completed her elementary and high school education. She graduated from the Faculty of Humanities and Social Sciences, University of Zagreb (English Language and Literature; Phonetics) in 1999 where she completed additional free studies of Portuguese Language and Literature in 2010 and received her Ph.D. in Linguistics (subfield: Phonetics) in 2011. She completed two seminars of the Verbotonal method, the first level seminar in SUVAG, Zagreb, and the second level seminar in Aliance Française, Padua, Italy. Furthermore, she obtained two scholarships from the Camões Institute (Portugal) that were realized at the University of Lisbon (Faculdade de Letras) and the University of Minho (Braga, CEHUM) and obtained the interantional DUPLÉ (C2 level diploma of Portuguese language) in 2015. She has collaborated on five scientific projects. Her scientific research and interest areas are: hearing perception, hearing pathology, memory, bilingualism, multilingualism, speech and hearing rehabilitation, speech and movement, animal communication, therapeutic animals in speech and hearing rehabilitaiton. She regularly attends scientific conferences and publishes scientific papers.

## Dulčić, Adinda

<b>Academic degree</b>	doctor of philosophy
<b>Title</b>	associate professor
<b>Organizational unit</b>	Department of Phonetics

### CV

Adinda Dulčić graduated from the University of Zagreb, Faculty of education and rehabilitation sciences (speech pathology). She received her Master's degree in child and adolescent psychiatry from the Medical faculty in Zagreb and earned her Ph.D. from the Faculty of education and rehabilitation sciences, Zagreb. She has been working at the SUVAG Polyclinic for rehabilitation of hearing and/or speech since 1974. From 2000 till 2004 she was the head of the State institute for protection of family, maternity and youth. Since 2004 she has been assistant of the head at the SUVAG Polyclinic and from 2006 till 2018 she has been the head of the SUVAG Polyclinic. She is an active member in organization and teaching at the Verbotonal seminars and specialistic courses whose purpose is education of verbotonal specialists. Dulčić's main research interests are children and youth with hearing and/or speech impairment, Verbotonal method in diagnostics and rehabilitation of hearing and/or speech impairment, educational integration and social and professional integration of persons with special needs. She is the author of numerous expert and scientific articles and books. She was chief editor of many publications and a member of organizational and programme comities of numerous domestic and international scientific congresses. Professor Dulčić has taught courses in all of the mentioned areas at different levels - undergraduate, graduate, and postgraduate, at the Faculty of education and rehabilitation sciences in Zagreb, Faculty of humanities and social sciences in Zagreb, Department of phonetics, The University Centre for Croatian studies, Department of psychology and Department of Educational Sciences and Teacher Education.

## Horga, Damir

<b>Academic degree</b>	doctor of philosophy
<b>Title</b>	prof.
<b>Organizational unit</b>	Department of Phonetics

### CV

Professor emeritus Damir Horga was born in Zagreb in 1938. At the Faculty of Humanities and Social Sciences at Zagreb University he graduated in English language and literature and Russian language and literature in 1967. He got his master's degree in phonetics in 1974. and doctor's degree in phonetics in 1987. He was teaching Russian language (1963-1965) at The School for Interpreters at the Faculte Politechnique in Mons (Belgium). After that at the Faculty of Humanities and Social Sciences at Zagreb University he was assistant at the Institute of Phonetics (1966-1979), and then at the Department of Phonetics assistant (1979-1986), docent (1988-1989), assistant professor (1989-1996), ordinary professor (1996-2001) and permanent ordinary professor from 2001. until his retirement in 2009. In 2012. he was honoured as professor emeritus at Zagreb University. At the Department of Phonetics he taught Articulatory Phonetics, General Phonetics, Foreign language teaching, Neurophonetics, Phonetic transcription and Measurement of Speech Abilities. He also taught phonetics at the Faculty of Education and Rehabilitation Sciences and at Faculty of Medicine at Zagreb University and at postgraduate study of linguistics, language teaching and phoniatriy. He was teaching Methodology courses in Audiovisual Global and Structural method of teaching foreign languages and verbotonal method of rehabilitation of speech and hearing in Coatia, Ex-Yugoslavia, Hungary, Italy, Belgium. He also participated as a teacher at School of Rhetorics Ivo Škarić. He was resresearcher in Croatian and international scientific projects and the maim researcher in some of them sponsored by the Croatian Ministry of Sciencies: The methodology of research of professional language in university education, Pragmatics of natural languages, Articulatory and neurolinguistics description of speech production and Production and perception of speech. He is the author of scientific books Processing of the phonetic information and Articulatory phonetics (Marko Liker was co-author in the second one). He published about hundred scientific articles and certain number of professional papers and textbooks for high school and university teaching of foreign languages. He was the author of educational programs of Radio Zagreb. He participated at numerous scientific and professional congresses and conferences in phonetics, psycholinguistics and applied linguistics in the country and abroad in the field of phonetics, psycholinguistics and applied linguistics. He lectured at the Universities of Ljubljana (Slovenia), Torunj and Washovi (Poland), Moscow (Russia). He was guest at universities in Peterburg, Moskow and Los Angeles. He is the member of Croatian and international professional and scientific associations (Croatian philological association, Croatian association for applied linguistics, International phonetic association, International society for phonetics, Commission for phonetics and phonology of Slavic languages). He was the president of the Croatian association for applied linguistics (1987-1989), president of the Phonetic section of the Croatian philological association (1994-2002), editor in chief of the journals Strani jezici (1992-1994) and Govor (2003-2011).

In 2009. he was rewarded by the Charter of the Faculty of Humanities and Social Sciences and in 2016. he got the annual reward of the Faculty for scientific book.

## **Judaš, Miloš**

**Academic degree**      doctor of philosophy  
**Title**                      full professor  
**Organizational unit**    Department of Phonetics  
**CV**

## Kišiček, Gabrijela

<b>Academic degree</b>	doctor of philosophy
<b>Title</b>	associate professor
<b>Organizational unit</b>	Department of Phonetics

### CV

Gabrijela Kišiček, PhD is an Associate Professor at the Department of Phonetics. She was born in 1977 in Varaždin where she finished elementary and high school. In 2004 she graduated at the Faculty of Humanities and Social Sciences at the Department of Phonetics and Department of Slavic languages and literature. The same year she started her postgraduate studies in linguistics. From 2008 she works at the Department of Phonetics, first as a Research assistant, then Senior research assistant and in 2018 she becomes an Assistant professor. In 2008 she defended the qualification thesis Comparison between female and male rhetoric under the supervision of professor emeritus Ivo Škarić. In 2012 she defended doctoral thesis Forensic profiling and speaker identification of Croatia urban varieties. During the years Gabrijela Kišiček participated at several courses at the Department of Phonetics: Orthoepy of Croatian language, Nonverbal communication, Rhetoric, Argumentation, History of Rhetoric, Rhetoric for teachers but also at different faculties at the University: Culture of public speaking at the Faculty of Kinesiology, Communication skills at the Faculty of Agriculture, Communication skills for teachers at the Faculty of Natural Sciences. Currently she teaches Argumentation and History of Rhetoric at the graduate studies of Rhetoric, Workshop for doctoral students at the Postgraduate studies of Croatian culture at the Faculty of Humanities and Social Sciences, Rhetoric at the Catholic faculty of Theology in Đakovo, Communication skills at the Faculty of Agriculture. Gabrijela Kišiček cooperates with London School of Public relations where she teaches courses: Rhetoric and Society, Media relations and Internal communication. She participated on numerous international conferences on Argumentation, Rhetoric, Public Speaking (more than 30) and she published more than 30 papers relating to the same topic in domestic and international journals and books. She supervised more than 20 Master's thesis. She is a co-author of the book Rhetoric and Society and author of the book Rhetoric and Politics. She is a member of Scientific panel of biannual European Conference on Argumentation and member of Board of Directors of Association for Informal Logic and Critical Thinking. She is, also a member of Rhetoric Society of Europe and a member of Editorial Board of Windsor Study in Argumentation publications. In 2013. she was an invited speaker on the Summer Institute on Argumentation at the University of Windsor in Canada. Gabrijela Kišiček was a president of Organization committee of the 1st International conference on Rhetoric: Days of Ivo Škarić in Croatia. From 2012 until 2016 she was a president of Phonetic section of Croatian Philological Association. Besides courses at the University, Gabrijela Kišiček participated as an instructor and lecturer on many different workshops for wide variety of professionals cooperating with many institutions: public speaking workshops for teachers (in cooperation with an Agency for education), trainings for military members (Ministry of defense of Republic of Croatia), workshops for translators (Croatian association for translators), lectures for medical doctors in politics (Academy for politics and medicine), lecture for public relations experts (Croatian Association for Public Relations) etc. She was project leader of Rhetorical skills of University lecturers (project sponsored by University of Zagreb) and she is currently Management committee member and a Training School coordinator on the international COST project: APPLY: European Network for Argumentation and Public Policy Analysis. Gabrijela Kišiček collaborates with commercial television Nova TV where she works as a commentator and speech coach.



## Kovačić, Damir

**Academic degree**        doctor of philosophy  
**Title**                        associate professor  
**Organizational unit**     Department of Phonetics

### CV

Assistant Prof. Damir Kovačić, B.Sc., PhD, with diploma in physics and PhD in cognitive neuroscience is head of the Biophysics and Neuroelectronics Lab at Department of Physics, University of Split. Former Marie-Curie Intra-European Fellow at KU Leuven (Belgium). He is author of 17 peer-reviewed papers, including papers in PNAS, Scientific Reports, Journal of Neuroscience, Journal of Neural Engineering, JARO, Ear and Hearing and the Journal of Acoustical Society of America. He works in auditory neurosciences, including cochlear implants (signal processing, clinical fittings), neuroimaging (optical topography, near-infrared spectroscopy, EEG & evoked potentials) and auditory neurophysiology (high dense single cell extracellular electrophysiology). Recently, he developed high-density neuroelectronic interface for neurophysiological studies of in vitro neuronal cultures and is developing graphene-based neuroelectronic interfaces. He also works on speech perception in cochlear implant users with emphasis on sound processing strategies.

## Liker, Marko

<b>Academic degree</b>	doctor of philosophy
<b>Title</b>	associate professor
<b>Organizational unit</b>	Department of Phonetics

### CV

Marko Liker is an associate professor at the Department of Phonetics. He earned his doctoral degree in 2009 by defending the PhD thesis on the use of electropalatography (EPG) in the analysis of Croatian sounds. He has been working at the Department of Phonetics since 2001, teaching at undergraduate, graduate and postgraduate levels. He also taught phonetics at the Undergraduate Study of Speech and Language Pathology at the Faculty of Education and Rehabilitation Sciences. His research interests are in the fields of articulatory and coarticulatory processes, biomechanical and language-specific aspects of speech production and in the application of instrumental techniques at the phonetics-phonology interface, in sociophonetics and in clinical phonetics. In 2005 he was on scholarship at Queen Margaret University College in Edinburgh and from 2008 until 2009 he worked as a Marie Curie short-term fellow at Edinburgh University and Queen Margaret University in Edinburgh. For his work Marko received several awards. Apart from publishing research papers in peer-reviewed journals, he published a book *Articulatory phonetics: anatomy and physiology of speech* in co-authorship with Damir Horga.

## Mildner, Vesna

<b>Academic degree</b>	doctor of philosophy
<b>Title</b>	full professor
<b>Organizational unit</b>	Department of Phonetics

### CV

Vesna Mildner, Ph.D. is tenured professor and Chair of applied phonetics at the Department of Phonetics, Faculty of Humanities and Social Sciences, University of Zagreb. Her research and teaching activities focus on speech acquisition, bilingualism, neurolinguistics, speech perception, auditory impairments and phonetic correction. Dr. Mildner has participated in Croatian and international research projects, and does joint research with colleagues from Australia, Canada, Norway, UK and USA. She was principal investigator on the project Neurolinguistic aspect of bilingualism (2002–2014) and is currently involved in two projects: Coarticulation in Croatian speech: instrumental investigation (CROCO) (Croatian Science Foundation) and Challenges in social sciences and humanities: new study programs and quality at the Faculty of Humanities and Social Sciences Zagreb (European Social Fund). Her publications include 2 books, about 80 book chapters and journal articles, some 40 abstracts and a number of book reviews and editorials. She (co)edited several books and proceedings, served as editor-in-chief in journals *Govor* (2010–2015) and *Strani jezici* (2000–2004) and is currently on the editorial board of several Croatian journals and an international one. Dr. Mildner is regularly asked to peer-review books and articles for Croatian and international publishers. She presented some 30 invited talks in Croatia, Austria, Brazil, Canada, China, France, Hungary, Germany, Italy and Slovenia and had some 70 papers at Croatian and international conferences; organized and/or served on organizing and program committees of about 40 conferences. Her teaching activities include supervision of 6 doctoral dissertations and about 100 B.A./M.Ed. theses, as well as award-winning student projects. Dr. Mildner is a member of numerous national and international associations and president of the International Clinical Phonetics and Linguistics Association. During her career at the Faculty of Humanities and Social Sciences dr. Mildner had several executive and administrative functions (Head of Phonetics department, Faculty vice-dean, member of Faculty council). She is currently serving as member of the Editorial council of FFpress – publishing division of the Faculty of Humanities and Social Sciences and member of two research ethical committees.

## Munivrana Dervišbegović, Boška

**Academic degree**        doctor of philosophy  
**Title**                        assistant professor  
**Organizational unit**    Department of Phonetics

### CV

Assistant Professor Boška Munivrana Dervišbegović, PhD, was born on November 1st, 1968 in Sinj, where she completed her primary education. She graduated from the high school of mathematics and informatics in Split. After the completion of high school education, she proceeded to graduate from the Faculty of Philosophy, University of Zagreb in 1994 and obtained the professional title of graduate phonetician and general linguist.

In 2012, she completed an interdisciplinary scientific postgraduate study program Language and Cognitive Neuroscience (JEKON) and defended her doctoral dissertation entitled Auditory Cognitive Evoked Potentials (CAEP) in children with cochlear implant, which earned her a doctorate in the interdisciplinary field of science, the cognitive sciences.

Since 1994, she has been employed at the SUVAG Polyclinic, at Department for Medical Rehabilitation of Listening and Speech of School-Age Children as audiorehabilitator. She is a lecturer at Verbotonal seminars organized by the Suvag Polyclinic in Croatia and abroad. She holds invited lectures at the Department of General Linguistics of the Faculty of Philosophy in Zagreb, as well as giving public lectures at the Zagreb Linguistic Circle and at the Department of Phonetics of the Croatian Philological Society. She worked as an external collaborator on the Voice CI project, conducted psychoacoustic measurements of speech perception of users of the cochlear implant type Cochlear (the leader was Assistant Professor Damir Kovačić, PhD, from the Faculty of Science in Split).

Boška Munivrana Dervišbegović was a member of the working group for the re-accreditation of the Suvag Polyclinic as a scientific organization, as well as a member of the Expert Council of the Suvag Polyclinic, the President of the Workers' Council and a member of the Management Board of the Suvag Polyclinic. Also, she was a member of the Presidency of the the Croatian Philological Society (HFD), the Department of Phonetics. Now, she is a member of the Presidency of the Croatian Professional Association of Phoneticians, a member of the Croatian Society for Neuroscience and a member of the Christian Academic Circle. She is also a member of the Croatian Society for Audiology and Phoniatics, the Croatian Society for Applied Linguistics, a member of the International Clinical Phonetics and Linguistics Association, a member of the International Phonetic Association and a member of the International Verbotonal Association.

## **Petković Liker, Marina**

**Academic degree**        doctor of arts  
**Title**                        associate professor  
**Organizational unit**     Department of Phonetics

### **CV**

MARINA PETKOVIĆ LIKER is a theater author, director, phonetician and comparatist of literature. She is involved in artistic and scientific research in the field of theater, the feminine principle within theory and practice, voice and speech, performance pedagogy. She is an associate professor at the Department of Acting at the Academy of Dramatic Arts and an external associate at the Faculty of Teacher education University of Zagreb for graduate studies and postgraduate specialist university study programme Theatre Pedagogy. She directed more than 30 plays. She participated in professional, scientific and artistic conferences, published several research papers in arts and science. She leads workshops (voice and body, speech, author's theater and specific theatrical communication) with different groups (artists, amateurs, teachers, students, teenagers and children).

## Pletikos Olof, Elenmari

**Academic degree** doctor of philosophy  
**Title** associate professor  
**Organizational unit** Department of Phonetics

### CV

Elenmari Pletikos Olof, Ph.D. is an associate professor at the Department of Phonetics. She was born 1974 in Pula, where she attended primary school and grammar school. She got her MA in Phonetics and German Language and Literature in 1999 at the Faculty of Humanities and Social Sciences, University of Zagreb with the thesis "Distinguishing of palatal sounds č and ć in Croatian speech". At the same faculty she got her PhD in Phonetics in 2008 with the Thesis „Acoustic description of word prosody in Croatian“. During her MA and PhD studies she got a few grants for study abroad: in 1995/96 the Austrian grant CEEPUS A-5 for one semester study of German Language and Literature at University of Salzburg, in 2002/03 the German Research and Study Grant DAAD for two semesters at the Institute for Natural Language Processing (IMS) at University of Stuttgart, and in 2007/08 the JFDP – Junior Faculty Development Program, one semester program for university instructors in the field of Linguistics at University of Iowa, Iowa City, Iowa, USA. From 2000 to 2009 she worked as Instructor and Junior Researcher and from 2009 until present she is Assistant Professor at the Department of Phonetics at Faculty of Humanities and Social Science, University of Zagreb. She teaches courses in phonetics and rhetoric: General Phonetics, Psychoacoustics and Rhetoric genres. She worked for three years at Croatian Television as phonetician in the Service for language and speech with journalists and TV anchors. As a lecturer she worked at the School of Rhetoric Ivo Škarić, teaching rhetoric to high school students at about 20 seminars. For scientific research she participated in three projects funded by Croatian Ministry of Science, Education and Sports where principal investigator was Ivo Škarić: Croatian standard word prosody (1996-2002), Research into Croatian received pronunciation (2002-2005) and Free and Conditioned Pronunciation Changes of the Linguistic Elements in General (2007-2009). She participated in three international projects: GraLis, Differences between Bosnian, Croatian and Serbian language and speech (2007-2009), Croatian and Slovenian language contact (2005-2009), and Challenges of applying new teaching techniques in South East European Universities (2008-2009). She has actively participated at various domestic and international conferences and she has published, individually or in collaboration with other authors, over 30 papers in domestic and international proceedings and journals. She is a member of Croatian Philological Association, Croatian Applied Linguistics Society, Croatian Reading Association and a member of the editorial board in Journal for phonetics Govor/Speech.

## Runjić, Nada

**Academic degree**            doctor of philosophy

**Title**

**Organizational unit**        Department of Phonetics

### CV

At the University Hospital «Sisters of charity» (Zagreb) she got her specialization in neurology (1995-2000). From 1998 to 1999 she finished postgraduate course in Clinical neurology, at the Faculty of Medicine (University of Zagreb). She got her Ph.D. degree with the thesis: Functional diagnostics of presbycusis, at the Faculty of Medicine, University of Zagreb (2000). Her previous employment includes University Hospital «Dr.Mladen Stojanović» in Zagreb (1990-1991), she was junior researcher on project «Presbycusis: rehabilitation and adaptation of telephone channel» (1991-1997), got fellowship in neurology for SUVAG Polyclinic, in: Department of Neurology, University Hospital «Sisters of charity», Zagreb (1995-2000). Also, she was a researcher on project «Polysensorics of hearing: hearing impairment and speech communication of hearing impaired persons» (1997-2002). She was principal investigator on project Verbotonal method i cochlear implant (2002-2006), on project Verbotonal diagnostic program for hearing and speech impaired children (2007-2013). She works as lecturer (Spacioception in hearing and speech), at the Faculty of Humanities and social sciences, at the Department of Phonetics (University of Zagreb), since school year 1997/98. She was working as principal investigator of project for young researchers «Program of functional diagnostics and rehabilitation of the persons with presbycusis), from 1998-2002. She is working as neurologist in Diagnostic Department, at SUVAG Polyclinic (since 2000), she is president of Scientific Board of SUVAG Polyclinic since 2007, ISO 9001 standard internal auditor (since 2015) and assistant director of SUVAG Polyclinic (since 2017). She is member of Croatian Medical Association, Croatian Society for Ultrasound in Medicine, Croatian Society of Neurology, Croatian Society of Neuroscience and Croatian and International Verbotonal Society.

## Šušković, Davor

**Academic degree**      doctor of philosophy  
**Title**  
**Organizational unit**      Department of Phonetics  
**CV**

# Šušković, Ivana

## Academic degree

### Title

**Organizational unit** Department of Phonetics

## CV

Ivana Šušković has graduated from the University of Zagreb, Faculty of Humanities and Social Sciences in 2009 and acquired master's degrees in Phonetics and Linguistics. For the last ten years she has been working as an audiologist in Microton d.o.o., where she applies her knowledge and education in phonetics while assessing hearing problems of clients and helping them choose and use the right hearing aids. Before her current position, she gained additional experience in applied phonetics as a rehabilitator at the Slava Raškaj Educational Center where she helped in treatments for the restoration and development of speech. Also, as a substitute phonetician she gained a valuable one-year experience on HRT national television working with reporters and anchors on their speaking skills. As for her experience teaching phonetics, she has been an associate lecturer at the Department of phonetics at the Faculty of Humanities and Social Sciences in Zagreb since 2014. She has taught students in the field of audio technology and has always based her lectures on her extensive practical experience in this field.

## **Tomić, Diana**

**Academic degree**            doctor of philosophy  
**Title**                            assistant professor  
**Organizational unit**        Department of Phonetics

### **CV**

Diana Tomić completed PhD at Postgraduate Doctoral Study in Linguistics (Phonetics), University of Zagreb in 2013. Currently, she is working as an Assistant Professor at the University of Zagreb (Department of Phonetics, Faculty of Humanities and Social Sciences). She has been teaching various courses at both B.A. and M.A. levels (principal instructor in courses such as Public Speaking Culture, Business Communication and Media Delivery for Kinesiologists etc.) and has also participated as an instructor at Doctoral Summer School of Postgraduate Doctoral Study in Information and Communication Science. She works as trainer of communication and public speaking skills for various life-long educational projects organized by the Faculty. Since 2012 she has been a Board member of the Phonetic Section of Croatian Philological Association and since 2016 she has served as the President; since 2015 she has served as a Main Secretary in the academic journal *Govor/Speech*; worked on several professional projects (VOC.COM – funded by IPA funds EU, organized by Dubrovnik Vocational School for Economy, ProGOVORi – funded by The Ministry of Science and Education). Her scientific interest is twofold: speech development and rhetorical pedagogy.

## Trotić, Robert

**Academic degree**      doctor of philosophy  
**Title**                      full professor  
**Organizational unit**    Department of Phonetics

### CV

Professor Robert Trotić, MD, PhD is an otorhinolaryngologist and audiologist, with a clinical practice and research specializing in otology, audiology and neurotology. He is a professor in the Department of Otorhinolaryngology & Head and Neck Surgery in the Sestre milosrdnice University Hospital Center in Zagreb (Croatia), Head of Otology and Neurotology Department, president of the Croatian Society for Cochlear Implantation and president of the Croatian Society of Audiology and Phoniatrists. He has a large experience in ear surgery, cochlear implantation and with active middle ear implants. His current research interests are audiology, balance problems, cochlear implants, hearing preservation surgery, challenges in active middle ear implants surgery, and has published and consults internationally widely in these fields.

## **Tuta Dujmović, Marijana**

### **Academic degree**

#### **Title**

**Organizational unit**      Department of Phonetics

### **CV**

Marijana Tuta Dujmović is a professor of phonetics and Croatistics. Since 2011 she has been working at the Center for Cochlear Implants and Early Hearing Rehabilitation of the SUVAG, Polyclinic, and in September 2019 she became the head of the Center. During 2015 and 2016, he received additional professional training in the field of programming and functionality of cochlear implants, which provides her with additional knowledge that enables her to perform speech processors adjustment procedures, connection, and first adjustment, and check the functionality of cochlear implant components.

As a lecturer she has participated in domestic and international symposia in the field of hearing and speech rehabilitation, and in the same field, she lectures at the General Verbotonal Seminar and Specialist Seminar at the Polyclinic SUVAG and in the course Hearing Disorders and Listening Rehabilitation Methodology, Faculty of Philosophy, University of Zagreb. Since September 2020, he has been working as an External Associate at the Department of Phonetics of the University of Zagreb in the course "Audiotehnika".

From 2012 to 2016 she was a member of the presidency of the Department of Phonetics of the Croatian Philological Society, from 2016 to 2020 president of the Croatian Verbotonal Association, and from 2016 to 2020 secretary of the Society of Phonetics Employees in Health Care. In 2012, she enrolled in the Postgraduate Doctoral Study of Linguistics at the Faculty of Philosophy in Zagreb.

In 2006-2012, twice a year she worked as a mentor at the Rhetoric School "Ivo Škarić" for gifted high school students, organized by the Ministry of Science, Education and Sports and HFD.

## Varošanec Škarić, Gordana

<b>Academic degree</b>	doctor of philosophy
<b>Title</b>	full professor
<b>Organizational unit</b>	Department of Phonetics

### CV

Gordana Varošanec-Škarić, PhD is a full professor at Department of Phonetics, University of Zagreb.

She completed a Degree in Dramaturgy at Academy of Theatre, Film and Television in Zagreb and also Comparative Literature and Phonetics at Faculty of Humanities and Social Sciences. In 1993 she completed Joint Postgraduate Programme in Information Science at University of Zagreb and received scientific Master Degree in Communication Science. In 1998 she completed PhD programme in Humanities, scientific area of Linguistics at Faculty of Humanities and Social Sciences in Zagreb (Acoustic features of pleasant voice).

She teaches several courses at the Department of Phonetics, at both bachelor's and master's programme: Orthophony, Speech in Mass Media, Methodics of Speech Training in Electronic Media, Public Speaking, Methodics of Phonetic Voice and Pronunciation Care. She has developed and taught several other courses for the programmes in phonetics (Orthoepy of Croatian Language I and Speech Exercises, Non-verbal Communication) and for other programmes in Croatia (University of Dubrovnik (course Speaking Culture), Academy of Dramatic Arts (course Phonetics) etc.). She teaches at Doctoral programme in Linguistics, from 2006/2007 an elective course Forensic Phonetics and from 2012 mandatory course Rhetoric of Science. Till 2016 she was teaching Speech in Mass Media and Non-verbal Communication at Doctoral programme in Information Science.

She has published several books and textbooks relevant for aesthetic and acoustic phonetics (Timbre, Phonetic Voice and Pronunciation Care) and forensic phonetics (Forensic Phonetics) and numerous scientific papers. She has participated in more than 30 scientific conferences and was a plenary speaker at several of them. From 1986 she was a researcher at project "Handbook of Standard Croatian Prosody" at Faculty of Humanities and Social Sciences in Zagreb. She was principal investigator of three scientific projects funded by the Ministry of Science, Education and Sports and seven projects in Forensic Phonetics funded by University of Zagreb. From 1998 to 2003 she was a researcher at bilateral scientific project and from 2018 international EU project. She was project manager of VOC.COM project funded by European Union.

She has mentored some 30 Master's theses and six Doctoral theses. She received Annual Award for Excellence from Faculty of Humanities and Social Sciences, University of Zagreb for the book Phonetic Voice and Pronunciation Care. She was head of the Department of Phonetics (2002-2004), Head of Phonetics Section of Croatian Philological Association in two terms (2001-2009). She is a long-term member of Croatian Philological Association Chairmanship. She is a member of international scientific-professional associations (International Association of Forensic Phonetics and Acoustics (IAFPA)). She was a member of Faculty Council in several terms, of the Committee on Philology of the Republic of Croatia (2013 – 2017). Currently she is a member of the National Council on Linguistics (from 2016) and from 2017 member of the Field Scientific Council for Humanities and Social Sciences University of Zagreb. From 2015 she is an Editor in Chief of scientific journal *Govor*. She has organized several scientific conferences with international participation and was the President of Programme Committee of scientific conference Research into Speech, international conference on rhetorics Days of Ivo Škarić on several occasions and international conference IAPFA (2017).



## Vidović Zorić, Ana

**Academic degree**        doctor of philosophy  
**Title**                        assistant professor  
**Organizational unit**     Department of Phonetics

### CV

Ana Vidović Zorić was born in 1981 in Sisak, where she finished primary and grammar school. In 2006 she obtained a master's degree in Croatian language and literature and Phonetics, and in 2015 she earned her PhD, with a thesis entitled Speech errors in phonological encoding and phonetic realization at the Faculty of Humanities and Social Sciences, University of Zagreb. Since 2008 she has been working at the Department of Phonetics at the Faculty of Humanities and Social Sciences, where she is currently a postdoctoral researcher giving lectures in several courses. She is also an ISVU and MOZVAG coordinator, and the member of the Committee for Quality Assurance, and the Ethics committee at the same Department. She collaborated on the scientific research project Production and perception of speech, and currently collaborates on two scientific research projects: CROCO – Coarticulation in Croatian speech: instrumental investigation, funded by the Croatian science foundation and the project entitled Speech errors database, funded by the University of Zagreb. She is executive secretary of the Phonetic journal Govor / Speech. She is also a member of the Croatian Applied Linguistics Society, as well as the Croatian Philological Society. Her research interests encompass neurophonetics, speech production and speech (dis)fluency. She regularly publishes scientific papers and participates in scientific conferences.

## Vlahović, Sanja

<b>Academic degree</b>	doctor of philosophy
<b>Title</b>	assistant professor
<b>Organizational unit</b>	Department of Phonetics

### CV

Sanja Vlahović was born in Zagreb where she finished primary and secondary school as well as the School of Medicine of the University of Zagreb. She graduated in 1991 and her first job was at the Student Health Center, where she worked until June 1997, when she began a specialization in otorhinolaryngology at the Sestre Milosrdnice Clinical Hospital Center. She finished the specialization in 2001, since when she works at the SUVAG Polyclinic. She passed the subspecialist exam in audiology in 2008. Since 2007, she has been the head of the Department for Medical Diagnostics and Rehabilitation of the SUVAG Polyclinic, and the deputy director of the SUVAG Polyclinic in the period from 2009 to 2014, and since 2017. She defended her doctoral dissertation in April 2014, and in 2015 she was elected to the scientific title of research associate. She was elected to the title of adjunct assistant professor at the Logopedic studies of the University of Rijeka in 2021 for the Audiology course. She was a long-term member of the Expert Group for the Cochlear Implantation Candidate Selection at the Ministry of Health of the Republic of Croatia, and now is a member of the Advisory Committee for the Cochlear Implantation. Since the academic year 2015/2016, she participate as a lecturer at the study of phonetics at the Faculty of Philosophy at the course Hearing Disorders and Methods of Hearing Rehabilitation, and has participated as a lecturer in postgraduate classes at the School of Medicine, University of Zagreb, Verbotonal seminars and courses, as well as several continuing medical education courses. She has participated at numerous Croatian and international professional and scientific conferences. As an author and co-author, she has published several professional and scientific papers in domestic and foreign journals, and is a long-term reviewer of an international scientific journal.

## Vlašić Duić, Jelena

<b>Academic degree</b>	doctor of philosophy
<b>Title</b>	full professor
<b>Organizational unit</b>	Department of Phonetics

### CV

She was born 1973 in Split. She attended primary school in Vela Luka and grammar school and music school in Zagreb. She got her MA in Phonetics and Croatian Language and Literature in 1999 at the Faculty of Humanities and Social Sciences, University of Zagreb with the thesis "Verbal humor in collection of poems Libro Dubaja Marusa by Šime Vučetić". At the same faculty she got her PhD in Croatian Language in 2009 with the Thesis "Dialogue in Croatian film". From 2000 to 2010 she worked as Instructor and Junior Researcher, from 2010 to 2018 she is Assistant Professor and until present she is Associate Professor at the Department of Phonetics at Faculty of Humanities and Social Science, University of Zagreb. She teaches courses in phonetics and rhetoric: Speech Linguistic, Oratory Methods, Orthoepy of Croatian Language II, Rhetoric and Stylistics and also Diction on Academy of Music, University of Zagreb. In 2009 she taught Dialogue in Croatian film on Postgraduate Doctoral Program in Linguistics and Written and Spoken Communication in Croatian on Postgraduate Specialist Study of Applied Croaticistics. As phonetician she worked for nine years at Croatian Television and three years at RTL Television in Service for language and speech with journalists and TV anchors. As a lecturer she worked at the School of Rhetoric Ivo Škarić, teaching rhetoric to high school students at 3 seminars. For scientific research she participated in two projects funded by Croatian Ministry of Science, Education and Sports where principal investigator was Branko Vuletić: Speech stylistics in poetic and political communication (1996 – 2002) and Speech stylistics in literary and public communication (2002 – 2011). In 2018 she was principal investigator on project Development of a corpus for learning and teaching Croatian accents funded by grant from the University of Zagreb and has actively participated at various domestic and international conferences and she has published, individually or in collaboration with other authors, over 30 papers in domestic and international proceedings and journals. She has written a scientific book "To Abyssinia for a Phonetician: Dialogue in Croatian film" (2013) and co-authored a book titled "Accent on the accent" (2021) with Blaženka Martinović and Elenmari Pletikos Olof. She is a member of Croatian Philological Association, Croatian Applied Linguistics Society, Language and Speech Council at Croatian Television, a member of the editorial board in Journal for phonetics Govor/Speech. From 2016 to 2017 she was the head of the Department of Phonetics at Faculty of Humanities and Social Science, University of Zagreb. In 2019 she was member of the Programme committee of the international conference Meaning in Language – from individual to collective (Rijeka, Croatia) and Programme committee chairman of the international conference Speech Research (Zagreb, Croatia).

## **Volenec, Veno**

**Academic degree**        doctor of philosophy  
**Title**                        lecturer  
**Organizational unit**     Department of Phonetics

### **CV**

Veno Volenec is a tenure-track Assistant Professor at Concordia University in Montreal, where he teaches courses in general linguistics, phonetics, and cognitive neuroscience. He is also the founder and director of the Speech Research Center at Concordia. He pursues scientific research in the areas of theoretical phonology, the phonology-phonetic interface, and the neurobiology of language and speech. He is the founder of Logical Phonology and Cognitive Phonetics. He has presented the main principles and empirical results of these two theoretical frameworks at numerous high-profile publications and invited talks.

