

Department of Phonetics

Academic year 2021. / 2022.

Date: 08.10.2021.

Studies

University undergraduate double major study Phonetics

1. semester

Mandatory courses

35850	Acoustic phonetics	6	60/0/0
35849	Articulatory phonetics + Speech exercises	6	30/0/30
39622	Physical Education 1	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)

36732	Foreign language learning	3	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
160766	Introduction to Applied Linguistics	3	30/0/0
36734	Non-verbal communication	5	15/30/0
52722	Phonetic approach to teaching pronunciation	4	15/0/15
160772	Rhetoric and stylistics	4	15/30/0
52304	Speech Ethics	5	30/15/0
225462	Speech fluency	4	30/15/0

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

225414	English for Academic Purposes 1	2	0/30/0
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Substitute course for foreign language for special purposes - choose a substitute course (1998)

Courses from other departments

Number of courses: 23

2. semester

Mandatory courses

35853	Phonetic transcription + Speech exercises	6	30/15/15
39624	Physical Education 2	0	0/0/30
35851	Speech technology	4	15/15/30

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)

125590	Coarticulation	3	15/15/0
37165	History of Linguistic Theories	5	30/15/0
36736	Neurophonetics	5	30/30/0
51306	Phonetics and phonology	3	30/0/0
225463	Verbotonal theory	3	30/0/0

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

225415	English for Academic Purposes 2	2	0/30/0
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Substitute course for foreign language for special purposes - choose a substitute course (1999)

37564	Bulgarian Language Course 2	4	0/0/30
36740	Course in Greek Language 2	2	0/30/0
225527	Course in Ukrainian 2	4	0/0/30
225419	French for Academic Purposes 2	2	0/30/0
225421	French for Academic Purposes 4	2	0/30/0
225423	German for Academic Purposes 2	2	0/30/0
225425	German for Academic Purposes 4	2	0/30/0
225435	Italian for Academic Purposes 2	2	0/30/0
225437	Italian for Academic Purposes 4	2	0/30/0
160768	Logic I: Introduction to Symbolic Logic	6	60/0/0
37566	Macedonian Language Course 2	4	0/0/30
70268	Modern Greek 2	2	15/15/0
56715	Modern Greek 4	3	15/0/15
77923	Modern Greek 6	3	15/15/0
225427	Russian for Academic Purposes 2	2	0/30/0
225429	Russian for Academic Purposes 4	2	0/30/0
37569	Slovenian Language Course	4	0/0/30
225431	Spanish for Academic Purposes 2	2	0/30/0
225433	Spanish for Academic Purposes 4	2	0/30/0
184299	Swedish Language II	7	0/30/60

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)

36732	Foreign language learning	3	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
160766	Introduction to Applied Linguistics	3	30/0/0
36734	Non-verbal communication	5	15/30/0
52722	Phonetic approach to teaching pronunciation	4	15/0/15
160772	Rhetoric and stylistics	4	15/30/0
52304	Speech Ethics	5	30/15/0
225462	Speech fluency	4	30/15/0

4. semester

Mandatory courses

50932	Physical Education 4	0	0/0/30
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Mandatory courses - in 4th and 6th semester choose a total of 17 ECTS credits (3654)

160829	Hearing and speech	6	36/0/24
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)

125590	Coarticulation	3	15/15/0
37165	History of Linguistic Theories	5	30/15/0
36736	Neurophonetics	5	30/30/0
51306	Phonetics and phonology	3	30/0/0
225463	Verbotonal theory	3	30/0/0

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)

36732	Foreign language learning	3	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
160766	Introduction to Applied Linguistics	3	30/0/0
36734	Non-verbal communication	5	15/30/0
52722	Phonetic approach to teaching pronunciation	4	15/0/15
160772	Rhetoric and stylistics	4	15/30/0
52304	Speech Ethics	5	30/15/0
225462	Speech fluency	4	30/15/0

6. semester

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

160829	Hearing and speech	6	36/0/24
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)

125590	Coarticulation	3	15/15/0
37165	History of Linguistic Theories	5	30/15/0
36736	Neurophonetics	5	30/30/0
51306	Phonetics and phonology	3	30/0/0
225463	Verbotonal theory	3	30/0/0

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
118139	Languages, cultures and identities of young people	5	30/15/0
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
225464	Forensic Phonetics	5	30/0/15
125406	History of rhetoric	5	15/30/0
125608	Language and Culture	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
120103	Teaching gifted students	4	30/0/0

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
118139	Languages, cultures and identities of young people	5	30/15/0
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

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
120103 Teaching gifted students 4 30/0/0

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 3rd 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
118139	Languages, cultures and identities of young people	5	30/15/0
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
225464	Forensic Phonetics	5	30/0/15
124281	Hearing disorders and methodology of hearing rehabilitation	5	30/0/30
125406	History of rhetoric	5	15/30/0
125608	Language and Culture	5	15/30/0
160755	Methodology of the individual approach to the rehabilitation of hearing and speech	5	5/0/55
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
160755	Methodology of the individual approach to the rehabilitation of hearing and speech	5	5/0/55
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
120103	Teaching gifted students	4	30/0/0

3. semester

Mandatory courses - in the first and/or 3rd 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
118139	Languages, cultures and identities of young people	5	30/15/0
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

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
160755 Methodology of the individual approach to the rehabilitation of hearing and speech 5 5/0/55
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
120103 Teaching gifted students 4 30/0/0

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
118139	Languages, cultures and identities of young people	5	30/15/0
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

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)

225464	Forensic Phonetics	5	30/0/15
124281	Hearing disorders and methodology of hearing rehabilitation	5	30/0/30
125406	History of rhetoric	5	15/30/0
125608	Language and Culture	5	15/30/0
125404	Methodology of phonetic care of voice and pronunciation (an individual approach)	5	15/0/30
160755	Methodology of the individual approach to the rehabilitation of hearing and speech	5	5/0/55
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
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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
118139	Languages, cultures and identities of young people	5	30/15/0
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

4. semester

Mandatory courses

124609 Master's Thesis for the Graduate Study of Phonetics

15 0/0/0

Courses

Acoustic phonetics

Name	Acoustic phonetics
Organizational unit	Department of Phonetics
ECTS credits	6
ID	35850
Semesters	Winter
Teachers	Marko Liker, PhD, Associate Professor (primary) Arnalda Dobrić, PhD, Assistant Professor
Hours	Lectures 60
Prerequisites	None
Goal	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.
Teaching methods	Lectures
Assessment methods	Continuous evaluation, written and oral exam

Learning outcomes

1. Explain physical properties of sound (sound pressure, speed of sound, intensity, frequency, and duration)
2. Explain graphical representations of sound (oscillogram, spectrogram, spectral slice)
3. Differentiate between the narrow and wide spectrogram and explain their purpose
4. Define the basic parameters of the acoustic analysis of speech
5. Analyze Croatian speech sounds via visual inspection of spectrograms and spectral slices
6. Explain basic temporal parameters of speech and basic segmentation of speech sound

Content

1. Introduction; sound source, sound propagation, and hearing; sound pressure, speed of sound, wavelength, frequency
2. Reference sound pressure, intensity, reference sound intensity, power, decibel
3. Basic concepts of speech sound recording, reproduction and analysis
4. Speech sound analysis: oscillogram, spectrogram, average spectrum, Visible Speech
5. Fundamental frequency, speech sound types
6. Source-filter theory, resonant frequencies of the vocal tract
7. Continuous assessment 1
8. Acoustics of vowels
9. Acoustics of stops
10. Acoustics of fricatives
11. Acoustics of affricates
12. Acoustics of nasals
13. Acoustics of approximants and trills
14. Temporal characteristics of speech
15. Continuous assessment 2

Acoustic phonetics - seminar

Name	Acoustic phonetics - seminar
Organizational unit	Department of Phonetics
ECTS credits	5
ID	117501
Semesters	Winter
Teachers	Marko Liker, PhD, Associate Professor (primary) Jelena Vlašić Duić, PhD, Associate Professor
Hours	Seminar 30
Prerequisites	None
Goal	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.
Teaching methods	Seminars
Assessment methods	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 fricatives: discussion of the relevant parameters and demonstration
7. Acoustic analysis of fricatives: supervised seminar assignments
8. Acoustic analysis of affricates: discussion of the relevant parameters and demonstration
9. Acoustic analysis of affricates: supervised seminar assignments
10. Acoustic analysis of approximants: discussion of the relevant parameters and demonstration
11. Acoustic analysis of approximants: supervised seminar assignments
12. Conclusions; student assignments evaluation; preparations for individual oral exams
13. .
14. .
15. .

Articulatory phonetics + Speech exercises

Name	Articulatory phonetics + Speech exercises	
Organizational unit	Department of Phonetics	
ECTS credits	6	
ID	35849	
Semesters	Winter	
Teachers	Marko Liker, PhD, Associate Professor (primary) Ana Vidović Zorić, PhD, Assistant Professor Ines Carović, PhD, Assistant Professor	
Hours	Lectures	30
	Speech exercises	15
	Practicum	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 or UTI). Speech exercises include training in basic phonetic skills (imitation, precision, fluency).	
Teaching methods	Lectures, exercises	
Assessment methods	Continuous evaluation, written and oral exam	
Learning outcomes	<ol style="list-style-type: none">1. Define speech2. Identify basic elements of the central nervous system and explain the role of the areas involved in speech control3. Explain the anatomy and physiology of respiration, phonation and articulation during speech4. Analyze the articulation of Croatian sounds (place, manner, voicing)5. Analyze the structure of the syllable6. Demonstrate basic speech exercises (imitation, articulation precision and fluency)	
Content	<ol style="list-style-type: none">1. Introduction2. Definition of speech3. Models of speech production4. Central nervous system and speech control5. Respiration / Continuous evaluation 16. Phonation: anatomy7. Phonation: physiology8. Articulation: anatomy / Continuous evaluation 29. Articulation: physiology 110. Articulation: physiology 211. Articulation: Croatian sounds – consonants12. Articulation: Croatian sounds – consonants13. Articulation Croatian sounds – vowels14. Syllable15. Continuous evaluation 3	

Audio technology

Name	Audio technology	
Organizational unit	Department of Phonetics	
ECTS credits	5	
ID	117511	
Semesters	Winter	
Teachers	Diana Tomić, PhD, Assistant Professor (primary) Damir Kovačić, PhD, Assistant Professor Davor Šušković, PhD Ivana Šušković Marijana Tuta Dujmović	
Hours	Lectures	30
	Exercises	30
Prerequisites	None	
Goal	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.	
Teaching methods	Lectures, exercises, mixed e-learning, project assignments	
Assessment methods	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

Name	Audiology and space perception	
Organizational unit	Department of Phonetics	
ECTS credits	5	
ID	117510	
Semesters	Winter	
Teachers	Arnalda Dobrić, PhD, Assistant Professor (primary) Nađa Runjić	
Hours	Lectures	30
	Exercises	30
Prerequisites	None	
Goal	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.	
Teaching methods	Lectures and exercises	
Assessment methods	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

Name	Coarticulation
Organizational unit	Department of Phonetics
ECTS credits	3
ID	125590
Semesters	Summer
Teachers	Marko Liker, PhD, Associate Professor (primary)
Hours	Lectures 15 Seminar 15
Prerequisites	To enroll course, it is necessary to pass course Articulatory phonetics + Speech exercises
Goal	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.
Teaching methods	Lectures and seminars
Assessment methods	Seminar assignments and oral exam

Learning outcomes

1. Give one definition of coarticulation and analyze keywords within that definition
2. Explain coarticulation within the framework of speech economy (hyper and hypo speech)
3. Explain coarticulation within the framework of phonological distinctive features
4. Explain coarticulation within the framework of co-production of articulatory gestures
5. Discuss coarticulatory processes at different articulatory sub-systems (laryngeal, labial, lingual)
6. Explain the implication of coarticulatory processes for applied phonetics (e.g. clinical phonetics)

Content

1. Introduction
2. Definitions of coarticulation; seminar workgroups and seminar assignments
3. Origins of the term coarticulation: history; seminar: early notions of coarticulation
4. Origins of the term coarticulation: the cause of coarticulation; seminar: why does coarticulation exist
5. Coarticulation and speech economy; seminar: Lindblom's adaptive variability (hyper and hypo speech)
6. Coarticulation and phonological distinctive features; seminar: Keating's Window model of coarticulation
7. Coarticulation and articulatory gestures; seminar: Recasens' DAC model
8. Coarticulatory dynamics; seminar: discussion of the problem of the direction and the range of coarticulation
9. Consonant coarticulation; seminar: discussion of coarticulation strength of consonants
10. Vowel coarticulation; seminar: discussion of coarticulation strength of vowels
11. Articulatory sub-systems and coarticulation; seminar: laryngeal sub-system
12. Articulatory sub-systems and coarticulation; seminar: labial sub-system
13. Coarticulation and applied phonetics (clinical phonetics)
14. Coarticulation and applied phonetics (clinical phonetics)
15. Conclusions and student seminar evaluation

Computer analysis and synthesis of speech

Name	Computer analysis and synthesis of speech	
Organizational unit	Department of Phonetics	
ECTS credits	4	
ID	124280	
Semesters	Summer	
Teachers	Nikolaj Lazić, PhD, Full Professor (primary)	
Hours	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

Foreign language learning

Name	Foreign language learning
Organizational unit	Department of Phonetics
ECTS credits	3
ID	36732
Semesters	Winter
Teachers	Ines Carović, PhD, Assistant Professor (primary)
Hours	Lectures 30
Prerequisites	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 differences between the process of language acquisition and language learning
2. Describe and explain various theories and approaches in second language learning
3. Explain and use basic linguistic terminology at different levels of language study
4. Compare and comment on the principles of AVGS (audio-visual global-structural) methodology with other approaches in L2 learning
5. Explain and comment on the concept of bilingualism

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

Forensic Phonetics

Name	Forensic Phonetics
Organizational unit	Department of Phonetics
ECTS credits	5
ID	225464
Semesters	Summer
Teachers	Gordana Varošanec Škarić, PhD, Full Professor (primary) Iva Bašić, PhD, Postdoctoral Researcher
Hours	Lectures 30 Exercises 15
Prerequisites	None
Goal	The aim of the course is to provide theoretical and practical knowledge and skills in forensic phonetics. The students will learn how to use protocols for the assessment of (dis)similarity of paired speakers' samples, how to measure independently acoustic parameters of speech samples by means of relevant computer programs, and how to determine competently all dimensions of speech required by the protocols. They will also be able to determine which sound parameters of speech to select in the process of speaker recognition depending on the sample itself and speech-related properties of the speech sound sample.
Teaching methods	Lectures and exercises
Assessment methods	Scoring of student performance: class attendance (5 points), midterm (30 points), written exam (50 points), experimental work (15 points); total – 100; grading scale: ≥ 60 points – sufficient (2); ≥ 70 points – good (3); ≥ 80 points – very good (4); ≥ 90 points – excellent (5).

Learning outcomes

Content

1. Short history of forensic phonetics; probability in forensic sciences
2. Phonetic description of the terms related to voice quality and recognition of speakers' voices
3. Forensic phonetics terminology
4. Professional ethics
5. Verification procedure
6. Auditory assessment protocols in forensic phonetics
7. Recognition of dialectal variants in speech
8. Acoustic measurements – F0
9. Determining formants and acoustic properties of Croatian vowels (F1, F2, F3, F4)
10. Telephone and GSM transmission; midterm
11. Speech rate
12. Dysfluency (interruptions of speech and types of dysfluencies; fillers and speaker recognition; speech disorders and speaker recognition)
13. Application of auxiliary acoustic methods (acoustic-statistical procedures in comparing (dis)similarities of voices)
14. Following recent literature and speaker-recognition research; particular attention will be paid to voice disguising as well as to comparisons of acoustic properties of Croatian speakers with the speakers of related languages (Serbian, Slovenian, Bosnian, Montenegrin) and unrelated languages
15. Written exam in theoretical knowledge; an auditory test in which paired speakers' samples are presented for recognition – these will reveal the degree to which the students have mastered the theoretical basis and acquired phonetic skills necessary for speech/voice recognition on the basis of compulsory reading, exercises and independent work in research seminars.

General Phonetics

Name	General Phonetics
Organizational unit	Department of Phonetics
ECTS credits	5
ID	51304
Semesters	Winter
Teachers	Elenmari Pletikos Olof, PhD, Assistant Professor (primary) Arnalda Dobrić, PhD, Assistant Professor Damir Horga, PhD, Prof. Ana Vidović Zorić, PhD, Assistant Professor
Hours	Lectures 45 Practicum 15
Prerequisites	To enroll course, it is necessary to pass course Acoustic phonetics To enroll course, it is necessary to pass course Articulatory phonetics + Speech exercises To enroll course, it is necessary to pass course Speech technology
Goal	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.
Teaching methods	Lectures, exercises, e-learning (Omega)
Assessment methods	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 speech

Name	Hearing and speech	
Organizational unit	Department of Phonetics	
ECTS credits	6	
ID	160829	
Semesters	Summer	
Teachers	Arnalda Dobrić, PhD, Assistant Professor (primary) Vesna Mildner, PhD, Full Professor Ivana Aras, PhD	
Hours	Lectures	36
	Speech exercises	24
Prerequisites	To enroll, course it is necessary to pass course Acoustic phonetics To enroll, course it is necessary to pass course Articulatory phonetics + Speech exercises	
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	<ol style="list-style-type: none">1. Describe the basics of auditory and vestibular systems, from the peripheral to the central level as well as the mechanisms of hearing and speech2. Understand different hearing and listening tests and correlate them with hearing pathology3. Give basic description of the client's hearing status based on the test results4. List and describe rehabilitation procedures in the framework of the verbotonal method (VTM)5. Describe the most frequent types of speech and hearing pathology6. Use professional and scientific literature independently and effectively7. Self-evaluate their interests and capabilities for further studies	
Content	<ol style="list-style-type: none">1. The organ of hearing (peripheral part and the auditory pathway); outer ear – anatomy, physiology, pathology2. Middle ear – ear drum; anatomy and physiology of the middle ear, middle ear pathology; inner ear – anatomy, physiology3. Inner ear pathology, anatomy, physiology and pathology of the auditory pathway, anatomy of the central auditory mechanisms4. Physiology and pathology of the central auditory mechanisms; 1st test (anatomy, physiology, pathology)5. Diagnostics – part 1 & 26. Diagnostics – part 3, exercises (acoumetry)7. Exercises – audiometry 1 & 2; audiometry 3 & 48. The basics of hearing and speech rehabilitation – rehabilitation methods and hearing aids; the verbotonal method in rehabilitation9. Group rehabilitation – educational program, music and rhythmic stimulation; individual rehabilitation; rehabilitation of children of different ages; story telling10. 2nd test; lecture on phoniatics11. On-site exercises – SUVAG Polyclinic: diagnostics, kindergarten12. 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

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

Name	History of rhetoric
Organizational unit	Department of Phonetics
ECTS credits	5
ID	125406
Semesters	Summer
Teachers	Gabrijela Kišiček, PhD, Assistant Professor (primary)
Hours	Lectures 15 Seminar 30
Prerequisites	None
Goal	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.
Teaching methods	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
Assessment methods	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	<ol style="list-style-type: none">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	<ol style="list-style-type: none">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 sophistic 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) Jürgen 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

Name	Information and communication theory
Organizational unit	Department of Phonetics
ECTS credits	3
ID	36733
Semesters	Winter
Teachers	Nikolaj Lazić, PhD, Full Professor (primary)
Hours	Lectures 30
Prerequisites	None
Goal	The aim of the course is to provide an intellectual basis for the study of phonetics, which studies human speech – the archetype of human communication. Through this course, the study of phonetics becomes more firmly structured among related sciences: linguistics, poetics, informatics, communication, neurology, sociology, psychology, physics.
Teaching methods	Lectures
Assessment methods	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; diversity 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

Name	Linguistics of speech
Organizational unit	Department of Phonetics
ECTS credits	5
ID	51310
Semesters	Summer
Teachers	Jelena Vlašić Duić, PhD, Associate Professor (primary) Ines Carović, PhD, Assistant Professor
Hours	Lectures 60
Prerequisites	None
Goal	The aim of this course is to provide theoretical knowledge in the field of speech linguistics and speech stylistics.
Teaching methods	Lectures
Assessment methods	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

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

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

Name	Methodology of phonetic care of voice and pronunciation (an individual approach)	
Organizational unit	Department of Phonetics	
ECTS credits	5	
ID	125404	
Semesters	Summer	
Teachers	Gordana Varošaneć Škarić, PhD, Full Professor (primary) Iva Bašić, PhD, Postdoctoral Researcher	
Hours	Lectures	15
	Methodology exercises	30
Prerequisites	None	
Goal	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.	
Teaching methods	Lectures, independent student tasks, exercises, and mixed e-learning	
Assessment methods	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

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

Learning outcomes

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

Content

1. Course introduction: aim, responsibilities, and evaluation
2. What is a relevant research problem and why it is important to identify it
3. Relevant literature and communication with authors
4. Research problem, hypotheses, methods: introduction
5. Research problem, hypotheses, methods: participants
6. Research problem, hypotheses, methods: test materials
7. Research problem, hypotheses, methods: techniques
8. Data quantification
9. Data interpretation
10. Data visualization
11. Publishing: oral or written, journal or proceedings
12. Publishing: oral or written, journal or proceedings
13. Publishing: oral or written, journal or proceedings
14. Assessment of published papers
15. Research proposal presentations

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

Name	Methodology of the individual approach to the rehabilitation of hearing and speech	
Organizational unit	Department of Phonetics	
ECTS credits	5	
ID	160755	
Semesters	Summer	
Teachers	Arnalda Dobrić, PhD, Assistant Professor (primary)	
Hours	Lectures	5
	Exercises	55
Prerequisites	None	
Goal	The aim of the course is to enable students to prepare and implement a program of individual hearing and speech rehabilitation.	
Teaching methods	Lectures, practical work, on-site exercises, discussion, and analysis	
Assessment methods	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

Name	Methodology of working on speech in electronic media	
Organizational unit	Department of Phonetics	
ECTS credits	5	
ID	124278	
Semesters	Winter	
Teachers	Gordana Varošanec Škarić, PhD, Full Professor (primary)	
Hours	Lectures	30
	Methodology exercises	30
Prerequisites	None	
Goal	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.	
Teaching methods	Seminars, combined e-learning, independent student projects	
Assessment methods	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 etiquette
 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 – Phonetic 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 radio speech professionals
 15. Grading
 Possibility of a make-up written test

Methods in teaching rhetoric

Name	Methods in teaching rhetoric
Organizational unit	Department of Phonetics
ECTS credits	5
ID	124277
Semesters	Winter
Teachers	Jelena Vlašić Duić, PhD, Associate Professor (primary)
Hours	Lectures 30 Methodology exercises 30
Prerequisites	None
Goal	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 to design teaching that will motivate students to understand rhetorical theory and develop rhetorical skills.
Teaching methods	Lectures and exercises
Assessment methods	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

Name	Neurophonetics
Organizational unit	Department of Phonetics
ECTS credits	5
ID	36736
Semesters	Summer
Teachers	Ana Vidović Zorić, PhD, Assistant Professor (primary) Miloš Judaš, PhD, Full Professor Boška Munivrana Dervišbegović, PhD, Assistant Professor
Hours	Lectures 30 Seminar 30
Prerequisites	None
Goal	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.
Teaching methods	Lectures, seminars, classroom discussion
Assessment methods	Class attendance, preliminary exam, seminar paper, written exam, oral exam; standard grading.

Learning outcomes

1. Define basic anatomic structures and the physiology of the neural system
2. Define speech and language brain areas
3. Determine the neural basis of speech and language processes
4. Recognize speech disorders of neural etiology

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

Name	Non-verbal communication	
Organizational unit	Department of Phonetics	
ECTS credits	5	
ID	36734	
Semesters	Winter	
Teachers	Gordana Varošaneć Škarić, PhD, Full Professor (primary) Iva Bašić, PhD, Postdoctoral Researcher	
Hours	Lectures	15
	Seminar	30
Prerequisites	None	
Goal	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.	
Teaching methods	Lectures, seminars and workshops	
Assessment methods	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 I + Speech exercises

Name	Orthoepy of Croatian language I + Speech exercises	
Organizational unit	Department of Phonetics	
ECTS credits	5	
ID	51303	
Semesters	Winter	
Teachers	Gordana Varošaneć Škarić, PhD, Full Professor (primary) Iva Bašić, PhD, Postdoctoral Researcher	
Hours	Seminar	30
	Speech exercises	15
Prerequisites	None	
Goal	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.	
Teaching methods	Seminars and exercises	
Assessment methods	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

Name	Orthophony
Organizational unit	Department of Phonetics
ECTS credits	5
ID	51613
Semesters	Winter
Teachers	Gordana Varošaneć Škarić, PhD, Full Professor (primary)
Hours	Lectures 30 Speech exercises 15
Prerequisites	To enroll course, it is necessary to pass course General Phonetics
Goal	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.
Teaching methods	Lectures, exercises, combined e-learning
Assessment methods	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 based on 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 based on 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 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 approach to teaching pronunciation

Name	Phonetic approach to teaching pronunciation	
Organizational unit	Department of Phonetics	
ECTS credits	4	
ID	52722	
Semesters	Winter	
Teachers	Arnalda Dobrić, PhD, Assistant Professor (primary) Diana Tomić, PhD, Assistant Professor (primary)	
Hours	Lectures	15
	Practicum	15
Prerequisites	None	
Goal	The aim of this course is to enable students to detect speech errors and to work independently on the correction of a particular error.	
Teaching methods	Lectures, exercises, combined e-learning, homework	
Assessment methods	Attendance (10% of the total score), homework (10% of the total score), test (30% of the total score); practical work (50% of the total score – divided into evaluation of the practical work and the logbook 50% and outcome of the correction sessions 50%).	

Learning outcomes

1. List the methods of phonetic corrections
2. Define the system of errors using contrastive analysis of phonological systems and specific individual characteristics of the speaker
3. Define the characteristics of speech sounds in Croatian
4. Apply the verbotonal method to phonetic correction of a particular error
5. Prepare the material for speech correction.
6. Adapt the material for phonetic correction according to the speakers' individual needs
7. Use electroacoustic devices (i.e. filter banks) in phonetic correction
8. Apply phonetic correction procedures for the selected pronunciation error

Content

1. Three hours of lectures – introduction to the subjects, system for distant learning Omega, student's tasks, syllabus and timing of tasks during the course; definition of phonetic correction; phonetic correction methods; principles of the verbotonal system
2. Three hours of lectures – values of spoken language; system of errors; the verbotonal method of phonetic correction; phonetic characteristics of speech sounds; the notion of “optimal” in the verbotonal method; optimal frequency band; defining frequency characteristics of speech sounds; terms of phonetic correction
3. Three hours of lectures – difference between the expected and the actual system of errors; defining the system of errors of a specific person; analysis of speech errors in foreign learners of Croatian; defining the terms of phonetic correction for specific errors; analysis of correlation of height and tenseness in affricates and fricatives; classification of phonetic speech errors; auditive recognition of the speaker's L1 and selection of the error for correction on the basis of the recording. Three hours of lectures – timing in speech correction; session structure; simulation of the phonetic correction sessions; revision and preparation for the test
4. Three hours of lectures – filter banks; technical and functional description of the parts of the apparatus; using the apparatus; preparation of the material for correction; principles of the preparation based on the examples; procedures in speech correction
5. Three hours of lectures – timing in speech correction; session structure; simulation of the phonetic correction sessions; revision and preparation for the test
6. Two hours of exercises; test

7. Three hours of exercises – on-site exercises in Croaticum; selection of candidates for phonetic correction
8. One hour of exercise – recording in the sound studio (includes both recording before and after the correction)
9. Exercises – individual sessions (10 individual sessions, app. 30 minutes each = 8 hours of exercises)
10. Exercises – individual sessions (10 individual sessions, app. 30 minutes each = 8 hours of exercises)
11. Exercises – individual sessions (10 individual sessions, app. 30 minutes each = 8 hours of exercises)
12. Exercises – individual sessions (10 individual sessions, app. 30 minutes each = 8 hours of exercises)
13. Exercises – individual sessions (10 individual sessions, app. 30 minutes each = 8 hours of exercises)
14. Exercises – individual sessions (10 individual sessions, app. 30 minutes each = 8 hours of exercises)
15. Final in-class presentations of phonetic correction outcomes with discussion

Phonetic transcription + Speech exercises

Name	Phonetic transcription + Speech exercises	
Organizational unit	Department of Phonetics	
ECTS credits	6	
ID	35853	
Semesters	Summer	
Teachers	Ines Carović, PhD, Assistant Professor (primary)	
Hours	Lectures	30
	Seminar	15
	Speech exercises	15
Prerequisites	None	
Goal	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.	
Teaching methods	Direct instruction: teaching through lectures/seminars/exercises; presentations; classroom discussion	
Assessment methods	Class attendance, preliminary exam, seminar paper, written exam, oral exam	

Learning outcomes

1. recognize, explain, and use the international and Croatian phonetic transcription and present the phonetic transcription for Croatian
2. apply the phonetic transcription in the perceptual analysis of typical speech
3. comprehend the history of writing and various graphic representations of speech
4. compare and comment on the differences between semiotics and semiology and different sign systems
5. explore examples of speech different from the typical Croatian pronunciation
6. transcribe samples of speech that differ from the typical Croatian pronunciation and present it to other students

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

Name	Phonetics and phonology
Organizational unit	Department of Phonetics
ECTS credits	3
ID	51306
Semesters	Summer
Teachers	Diana Tomić, PhD, Assistant Professor (primary) Veno Volenec, PhD, Lecturer
Hours	Lectures 30
Prerequisites	None
Goal	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.
Teaching methods	Lectures, mixed e-learning
Assessment methods	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

Name	Psychoacoustics - seminar
Organizational unit	Department of Phonetics
ECTS credits	5
ID	124279
Semesters	Summer
Teachers	Elenmari Pletikos Olof, PhD, Assistant Professor (primary) Ana Vidović Zorić, PhD, Assistant Professor
Hours	Seminar 30
Prerequisites	None
Goal	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.
Teaching methods	Short interactive lectures, seminar discussions, group work, experiments.
Assessment methods	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
- 7.

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 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

Name	Public speaking skills
Organizational unit	Department of Phonetics
ECTS credits	4
ID	225465
Semesters	Summer
Teachers	Gabrijela Kišiček, PhD, Assistant Professor (primary) Ines Carović, PhD, Assistant Professor (primary)
Hours	Lectures 15 Seminar 15
Prerequisites	None
Goal	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.
Teaching methods	Lectures Seminars
Assessment methods	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

Name	Rhetoric
Organizational unit	Department of Phonetics
ECTS credits	6
ID	51321
Semesters	Summer
Teachers	Gordana Varošaneć Škarić, PhD, Full Professor (primary) Iva Bašić, PhD, Postdoctoral Researcher
Hours	Lectures 30 Seminar 30
Prerequisites	To enroll course, it is necessary to pass course General Phonetics
Goal	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.
Teaching methods	Lectures, seminars and workshops, student tasks and mentoring work
Assessment methods	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 and stylistics

Name	Rhetoric and stylistics
Organizational unit	Department of Phonetics
ECTS credits	4
ID	160772
Semesters	Winter
Teachers	Jelena Vlašić Duić, PhD, Associate Professor (primary)
Hours	Lectures 15 Seminar 30
Prerequisites	None
Goal	The aim of this course is to explain the basic rhetorical and stylistic concepts, their application in rhetorical and stylistic analysis and to train students to analyze stylistic content on linguistic and speech levels.
Teaching methods	Lectures and seminars
Assessment methods	Continuous evaluation, seminar assignments, colloquium, oral exam

Learning outcomes

1. Define rhetorical and stylistic terms and procedures
2. Apply theoretical knowledge to different models of aesthetic text interpretation
3. Compare stylistic and rhetorical procedures
4. Define and analyze stylistic devices
5. Analyze stylistic procedures at different levels of stylistic analysis
6. Apply the acquired knowledge in speech performance

Content

1. Introduction to the topic of the course; rhetoric as a forerunner of stylistics; announcement and division of seminar assignments
2. Language stylistics and speech stylistics; discussion about norm and description in rhetoric and stylistics
3. Style and stylistic devices; stylistic schools; examples of different approaches (text study)
4. Linguistic stylistics; linguistic-stylistic approach to the text
5. Phonostylistic analysis
6. Functional styles; discussion about the status of literary style
7. Semiotics and rhetoric; discourse; story, narration, narrative
8. Stylistic devices: definition, functionality, and usage; analysis of stylistic devices
9. Figures of speech; analysis
10. Stylistics and rhetoric of film dialogue; analysis of dialogue in Croatian films
11. Linguistic, spoken, and poetic sign; characteristics of a poetic sign – application
12. Voice symbolism; procedures for constructing poetic space: reflecting, summarizing, and repeating
13. Rhetoric in stylistics; discussion of the connection between speech performance and argumentation; the relationship between modern rhetoric and stylistics
14. Speech stylistics; conclusion; use of stylistic knowledge in speech performance
15. Colloquium; evaluation and conclusion

Rhetorical argumentation

Name	Rhetorical argumentation
Organizational unit	Department of Phonetics
ECTS credits	6
ID	215530
Semesters	Winter
Teachers	Gabrijela Kišiček, PhD, Assistant Professor (primary)
Hours	Lectures 30 Seminar 30
Prerequisites	None
Goal	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.
Teaching methods	Lectures – theoretical foundations of argumentation Seminars – analysis of an argumentative discourse
Assessment methods	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

Name	Rhetorical genres
Organizational unit	Department of Phonetics
ECTS credits	5
ID	170378
Semesters	Summer
Teachers	Elenmari Pletikos Olof, PhD, Assistant Professor (primary)
Hours	Seminar 30 Methodology exercises 30
Prerequisites	None
Goal	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.
Teaching methods	Direct instruction, teaching through seminars and exercises, presentations, classroom discussion, e-learning (Omega)
Assessment methods	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
- 9.

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 development

Name	Speech development
Organizational unit	Department of Phonetics
ECTS credits	5
ID	51614
Semesters	Winter
Teachers	Diana Tomić, PhD, Assistant Professor (primary) Vesna Mildner, PhD, Full Professor
Hours	Lectures 30 Seminar 30
Prerequisites	None
Goal	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.
Teaching methods	Lectures, seminars, mixed e-learning
Assessment methods	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

Name	Speech disorders and their rehabilitation methods	
Organizational unit	Department of Phonetics	
ECTS credits	5	
ID	124275	
Semesters	Summer	
Teachers	Diana Tomić, PhD, Assistant Professor (primary) Adinda Dulčić, PhD, Associate Professor	
Hours	Lectures	30
	Exercises	30
Prerequisites	None	
Goal	The aim of the course is to introduce speech, language, reading, and writing disorders.	
Teaching methods	Lectures and seminars	
Assessment methods	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 fluency

Name	Speech fluency
Organizational unit	Department of Phonetics
ECTS credits	4
ID	225462
Semesters	Winter
Teachers	Ana Vidović Zorić, PhD, Assistant Professor (primary)
Hours	Lectures 30 Seminar 15
Prerequisites	None
Goal	The goal of this course is to give students an insight into the characteristics of speech fluency in different speech situations, as in spontaneous speech, public speaking, reading, foreign language speech etc., as well as provide them with the skill to collect and analyze different types of disfluencies and explain them in terms of psycholinguistic models.
Teaching methods	Lectures, seminars, presentations, classroom discussion
Assessment methods	Class attendance, preliminary exam, seminar paper, written exam, oral exam; standard grading

Learning outcomes

Content

1. Lecture: Course introduction; content, goals, learning outcomes, student obligations, and literature
Seminar: Seminar assignments and instructions for their preparation
2. Lecture: Defining speech production and speech fluency; types of disfluencies in speech: silent pauses, prolonged sounds, filler words, filled pauses etc.
Seminar: Identifying types of disfluencies in utterances
3. Lecture: Theories and models of speech production
Seminar: Measuring fluency in spontaneous speech – discussion
4. Lecture: Models of phonological encoding
Seminar: Measuring fluency in spontaneous speech
5. Lecture: Speech errors – classification according to the units of speech involved in error
Seminar: Speech errors corpus – methods of collecting errors
6. Lecture: Speech errors – classification according to structure and direction
Seminar: Method of analyzing speech errors within the corpus
7. Lecture: Self-repairs in spontaneous speech; theory of speech monitoring
Seminar: Analysis of self-repairs
8. Lecture: Neurobiological basis of speech fluency
Seminar: Analysis of silent pauses
9. Lecture: Cognitive abilities and speech fluency
Seminar: Analysis of filler words
10. Lecture: Perception of fluency
Seminar: Fluency perception test
11. Lecture: Fluency and social characteristics of speakers I: age and gender
Seminar: Analysis of filled pauses
12. Lecture: Fluency and social characteristics of speakers II: regional differences and education level
Seminar: Comparison of characteristics of (dis) fluency in different social groups
13. Lecture: Speech fluency in a foreign language
Seminar: Analysis of disfluency regarding to position in utterance
14. Lecture: Fluency disorders; stuttering and cluttering

- Seminar: Identifying types of fluency disorders in speech
- 15. Lecture: Concluding remarks on speech fluency
- Seminar: Evaluation of student work; student survey

Speech production research

Name	Speech production research
Organizational unit	Department of Phonetics
ECTS credits	5
ID	117514
Semesters	Winter
Teachers	Marko Liker, PhD, Associate Professor (primary)
Hours	Lectures 15 Seminar 30 Speech exercises 15
Prerequisites	None
Goal	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.
Teaching methods	Lectures, seminars, and exercises
Assessment methods	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 technology

Name	Speech technology
Organizational unit	Department of Phonetics
ECTS credits	4
ID	35851
Semesters	Summer
Teachers	Nikolaj Lazić, PhD, Full Professor (primary)
Hours	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. Independently record sound on the computer, display and analyze speech sound and make basic speech synthesis
2. Apply computer programs in the analysis of speech sound and the synthesis of speech-like sound
3. Distinguish between analog and digital audio recordings on different media, and know how to record on a computer
4. Distinguish the types of speech synthesis and explain the differences
5. Annotate the sound on the computer and modify it if necessary

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

Statistics

Name	Statistics
Organizational unit	Department of Phonetics
ECTS credits	5
ID	117516
Semesters	Winter
Teachers	Mirjana Tonković, PhD, Associate Professor (primary)
Hours	Lectures 30 Exercises 30
Prerequisites	None
Goal	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.
Teaching methods	Lectures and exercises.
Assessment methods	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

Name	Verbotonal theory
Organizational unit	Department of Phonetics
ECTS credits	3
ID	225463
Semesters	Summer
Teachers	Arnalda Dobrić, PhD, Assistant Professor (primary) Diana Tomić, PhD, Assistant Professor (primary)
Hours	Lectures 30
Prerequisites	None
Goal	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.
Teaching methods	Lectures, mixed e-learning, project assignments
Assessment methods	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

Teachers

Aras, Ivana

Academic degree PhD
Title
Organizational unit Department of Phonetics
CV

Bašić, Iva

Academic degree	PhD
Title	postdoctoral researcher
Organizational unit	Department of Phonetics

CV

Iva Bašić, PhD is a postdoctoral researcher 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 her 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 a 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 the 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

Academic degree	PhD
Title	Assistant Professor
Organizational unit	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 Jednosvežačni 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 the Award of Croatian applied linguistics society (best oral presentation of young researchers, Award of Foundation „Zlata Bartl“, Award “Najstudent Mađimurja” (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	PhD
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 DUPLE (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 rehabilitation. She regularly attends scientific conferences and publishes scientific papers.

Dulčić, Adinda

Academic degree	PhD
Title	Associate Professor
Organizational unit	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 program committees 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

Academic degree	PhD
Title	Professor emeritus
Organizational unit	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 honored 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 Croatia, Ex-Yugoslavia, Hungary, Italy, Belgium. He also participated as a teacher at School of Rhetorics Ivo Škarić. He was researcher in Croatian and international scientific projects and the maim researcher in some of them sponsored by the Croatian Ministry of Sciences: 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	PhD
Title	Full Professor
Organizational unit	Department of Phonetics
CV	

Kišiček, Gabrijela

Academic degree	PhD
Title	Assistant Professor
Organizational unit	Department of Phonetics

CV

Gabrijela Kišiček, PhD is an Assistant 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 PhD
Title Assistant 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

Academic degree	PhD
Title	Associate Professor
Organizational unit	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

Academic degree	PhD
Title	Professor emerita
Organizational unit	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	PhD
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 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.

Pletikos Olof, Elenmari

Academic degree	PhD
Title	Assistant Professor
Organizational unit	Department of Phonetics

CV

Elenmari Pletikos Olof, Ph.D. is Assistant 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. Currently she is the head of the Department of Phonetics at Faculty of Humanities and Social Science, University of Zagreb.

Runjić, Nada

Academic degree PhD
Title
Organizational unit Department of Phonetics

CV

Nada Runjić was born in 1966 in Duborvnik (Croatia). She finished her education on Faculty of Medicine, at the University of Zagreb in 1990. She decided to continue her education on postgraduate course in Gerontology, at the Faculty of Medicine (University of Zagreb) from 1990 to 1992. She got her master of science degree (thesis: Speech field in presbycusis), at the Faculty of Medicine (University of Zagreb) in 1994. 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 PhD
Title
Organizational unit Department of Phonetics
CV

Šušković, Ivana

Academic degree MA

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	PhD
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 PhD
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 Phoniaticians. He has a large experience in ear surgery, cochlear implantation and with active middle ear implants. His current research interest is audiology, balance problems, cochlear implants, hearing preservation surgery, challenges in active middle ear implants surgery, and has published and consults internationally widely in this fields.

Tuta Dujmović, Marijana

Academic degree MA

Title

Organizational unit Department of Phonetics

CV

Marijana Tuta Dujmović is a professor of phonetics and Croaticistics. 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

Academic degree	PhD
Title	Full Professor
Organizational unit	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 program: Orthophony, Speech in Mass Media, Methodic of Speech Training in Electronic Media, Public Speaking, Methodic of Phonetic Voice and Pronunciation Care. She has developed and taught several other courses for the programs in phonetics (Orthoepy of Croatian Language I and Speech Exercises, Non-verbal Communication) and for other programs in Croatia (University of Dubrovnik (course Speaking Culture), Academy of Dramatic Arts (course Phonetics) etc.). She teaches at Doctoral program 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 program 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 Program Committee of scientific conference Research into Speech, international conference on rhetoric Days of Ivo Škarić on several occasions and international conference IAPFA (2017).

Vidović Zorić, Ana

Academic degree	PhD
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

Academic degree	PhD
Title	Assistant Professor
Organizational unit	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 participates 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

Academic degree	PhD
Title	Associate Professor
Organizational unit	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 was teaching 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 Program committee of the international conference Meaning in Language – from individual to collective (Rijeka, Croatia) and Programm committee chairman of the international conference Speech Research (Zagreb, Croatia).

Volenec, Veno

Academic degree PhD
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.