

1.	Course	<b>Computational linguistics</b>			
2.	Code	<b>INF-C7</b>			
3.	Study programme	Informatics			
4.	Study programme organized by	Faculty of Computer Science and Engineering			
5.	Cycle	Third - PhD			
6.	Academic year / semester winter/summer/elective	first/second	7.	ECTS credits	7,5
8.	Teacher	Prof. Katerina Zdravkova, PhD			
9.	Prerequisites	None			
10.	<p>Course programme goals (competences):  This course offers the basic theoretical knowledge in the area of computational linguistics and natural language processing and the competence to solve practical tasks in the area of natural language processing, with an emphasis to Macedonian language. Upon successful completion of this course, the student will have an excellent understanding of the introductory topics of linguistics, which are crucial for further natural language processing, and to be competent to implement information and communication technology to solve various practical problems connected with computer processing of languages, including the possibility to implement machine learning technologies.</p>				
11.	<p>Course syllabus:  Introduction to: phonology, morphology, syntax, semantics, speech and pragmatics;  Technologies for natural language processing: text segmentation, PoS tagging and morpho-syntactic annotation, ambiguity resolution, anaphora resolution, natural language synthesis, information retrieval, corpus linguistics, ontologies;  Implementation of machine learning in NLP: inductive learning of morphology, syntax and semantics, categorization, information extraction, ambiguity resolution.</p>				
12.	<p>Teaching methods:  Classes supported with slide presentations, interactive teaching, teamwork, case studies, invited guest lecturers, presentations of project works, e-learning materials, forums and tutorials</p>				
13.	Total fund of work hours	7,5 ECTS x 30 h = 225 h			
14.	Available hours distribution	45 + 40 + 30 + 30 + 80 = 225			
15.	Teaching activities	15.1.	Theoretical classes	45 h	
		15.2.	Seminars, team work	40 h	
16.	Other activities	16.1.	Project tasks	30 h	
		16.2.	Individual assignments	30 h	
		16.3.	Homework	80 h	
17.	Grading				
	17.1.	Tests			20 points
	17.2.	Seminar work/ project (presentation: written and oral)			70 points
	17.3.	Active participation			10 points
18.	Grading criteria (points/grade)		to 59 points	5 (five) (F)	
			from 60 to 68 points	6 (six) (E)	

		from 69 to 76 points	7 (seven) (D)
		from 77 to 84 points	8 (eight) (C)
		from 85 to 92 points	9 (nine) (B)
		from 93 to 100 points	10 (ten) (A)
19.	Conditions for attending the final exam	Successful completion of activities 15.1 and 15.2	
20.	Language	Macedonian or English	
21.	Quality assessment	Internal evaluation and student pools	

22.	Literature				
	Compulsory				
	No.	Author	Title	Publisher	Year
22.1.	1.	Mitkov, R. (editor)	The Oxford Handbook of Computational Linguistics	Oxford University Press, USA	2015
	2.	Jurafsky, D., Martin H. M.	Speech and Language Processing	Pearson Prentice Hall	2008
	3.	Manning, C. D., Reghavan, P., Schultze, H.	Introduction to Information Retrieval	Cambridge University Press	2008
	Additional				
	No.	Author	Title	Publisher	Year
22.2.	1.	Hauser, R.	Foundation of Computational Linguistics: Human - Computer Communication in Natural Language	Springer	2013
	2.	Clark, A., Fox, C., Lappin, S. (editors)	The Handbook of Computational Linguistics and Natural Language Processing	Wiley - Blackwell	2012
	3.	Pustejovsky, J., Stubbs, J.	Natural Language Annotation for Machine Learning	O'Reilly Media	2012