1.	Course		*Advanced processing of text data*	
2.	Code		KNI_E27	
3.	Study programme		Computer Science and Engineering PhD study programme	
4.	Study programme organized by		FCSE	
5.	Cycle		Third – PhD	
6.	Academic year / semester winter/summer/elective		7. ECTS credits 7,5	
8.	Teacher		Prof. d-r Igor Trajkovski	
9.	Prerequisites		None	
10.	Course programme goals (competences): The course goal is to offer students advanced theoretical and practical knowledge about natural language processing algorithms. The students will understand advanced methods for data structures representations of the language structure and meaning, as well as methods to recognize these structures and meaning in text data. Most importantly, the students will be able to use the models for solving various problems. Special attention will be given to the use of machine learning in natural language processing.			
11.	Course syllabus: Natural language statistical modeling. N-grams; Advanced spell correction methods; Advanced stemming methods; Advanced part-of speech tagging methods; Advanced multi-meaning resolution methods; Advanced parsing methods; Co-referencing; Integration and ontology usage (SnePS; WordNet, Cyc, FrameNet); Answering questions by the means of Wikipedia and other structured and half-structured information sources.			
12.	Teaching methods: Classes supported with slide presentations, interactive teaching, lab equipment and other software packages, teamwork, case studies, invited guest lecturers, presentations of project works, e-learning materials, forums and consultations.			
13.	Total fund of work hours		7,5 EKTC x 30 h = 225 h	
14.	Available hours distribution		45+30+150 = 225	
15.	Teaching activities	15.1.	Theoretical classes	45 h
		15.2.	Practical classes (labs, exercises), seminars, team work	30 h
16.	Other activities	16.1.	Project tasks	50 h
		16.2.	Self study	50 h
		16.3.	Homework	50 h
17.	Grading			
	17.1.	Tests		40 points
	17.2.	Seminar work/ project (presentation: written and oral)		50 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				
	22.1.	Compulsory			
		No.	Author	Title	Publisher	Year
		1.	Daniel Jurafsky and James H. Martin	Speech and Language Processing	Pearson Prentice Hall	2009
		2.				
		3.				
	22.2.	Additional				
		No.	Author	Title	Publisher	Year
		1.	Steven Bird, Ewan Klein and Edward Loper	Natural Language Processing with Python - Analyzing Text with the NLTK	O'Reilly Media	2009
		2.	Mitkov R. (editor)	The handbook of computational linguistics	Oxford University Press	2005
		3.				