1.	Course title	**Data Fusion**		
2.	Course code	SBP-Z-03		
3.	Study program	**MSC programme – Content based searching**		
4.	Unit offering the course	**FCSE**		
5.	Undergraduate/master/PhD	**Master**		
6.	Year/semester 1/spring/compulsory	7. ECTS: **6**		
8.	Teacher(s)	Igor Trajkovski. Katerina Zdravkova		
9.	Course prerequisites	None		
10.	Goals (competences): In this course will be studied methods for extracting information from unstructured and semi-structured documents, techniques for representing knowledge and belief. The problem of extracting information will be presented from the machine learning perspective. Also the implementation of these algorithms will be discussed. Several implemented systems that use formal logic will be presented and the way of using them for implementation of procedures for reasoning.			
11.	Course content: Introduction to information extraction, Name Entity Extraction, Relations extraction, Name and relation extraction from Wikipedia, Ontology extraction from Wikipedia, Ontology integration, WordNet, Cyc, FrameNet, ConceptNet			
12.	Teaching methods: Lectures supported by slide presentations, interactive lectures, trainings (using lab equipment and software packages), team work, case studies, invited guests and lectures, individual practical assignments presentations, seminar paper, e-learning (forums, consultations).			
13.	Total available time	6 ECTS x 30 hours = 180 hours		
14.	Distribution of the available time	130 + 0 + 50 = 180 hours		

15.	Teaching activities	15.1.	Lectures	130 hours
		15.2.	Training (labs, problem solving), seminar and team work	0 hours
16.	Other activities	16.1.	Project work	15 hours
		16.2.	Self study	15 hours
		16.3.	Home work	20 hours

17.	Grading		
	17.1.	Tests	65 points
	17.2.	Seminar work/project (written or oral presentation)	25 points
	17.3.	Active participation	10 points

18.	Grading criteria	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.	Final exam prerequisites	Successfully completed activities 15.1 and 15.2
20.	Course language	Macedonian and English
21.	Quality assurance methods	Internal evaluation and student questionnaires

22.	Literature					
	22.1.	Compulsory				
		No.	Authors	Title	Publisher	Year
		1.	Marie-Francine Moens	Information Extraction: Algorithms and Prospects in a Retrieval Context	Springer	2006
		2.	Sunita Sarawagi	Information Extraction	Now Publishers	2008
		3.	Stuart C. Shapiro	Knowledge Representation and Reasoning: Logics for Artificial Intelligence, Lecture Notes	University at Buffalo, The State University of New York Buffalo	2010
	22.2.	Additional				
		No.	Authors	Title	Publisher	Year
		1.	Oren Etzioni & Co.	Unsupervised named-entity extraction from the web: an experimental study	Journal of Artificial Intelligence	2005
		2.	Cyc Corporation	Cyc 101 Tutorial	Cyc Corporation	2010
		3.		Publications Turing Centar, Investigating problems at the crossroads of natural language processing, data mining, Web search, and the Semantic Web. http://turing.cs.washington.edu/publications.htm		