1.	Course title	**Knowledge based information systems**	
2.	Course code	IIS-I-08	
3.	Study program	**Intelligent information systems**	
4.	Unit offering the course	**FCSE**	
5.	Undergraduate/master/PhD	**Master**	
6.	Year/semester 1/summer/elective	7. ECTS: **6**	
8.	Teacher(s)	associate professor Slobodan Kalajdziski	
9.	Course prerequisites	None	
10.	Goals (competences): The student will be capable of designing and developing information systems based on knowledge through the use of modern tools for detecting knowledge.		
11.	Course content: Databases and knowledge bases. Spatial-temporal databases and GIS. Modern tools for analysis and data mining. Data warehouse and decision-making system. Data mining techniques. Data Mining and visualization. Discovering knowledge in databases (Knowledge Discovery in Databases - KDD) technology: the selection process, pre-processing, transformation, interpretation / evaluation. Customization.		
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		45 points
	17.2. Seminar work/project (written or oral presentation)		45 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.	P. Kantor, et al.	Information Retrieval	Kluwer	2000
		2.	Witten, Frank	Data Mining: Practical Machine Learning Tools and Techniques	Morgan Kaufman	2005
		3.	E. Turban, J. E. Aronson, T-P. Liang, R. Sharda	Decision Support and Business Intelligence Systems"	Prentice Hall	2006
	22.2.	Additional				
		No.	Authors	Title	Publisher	Year
		1.		Selected papers from relevant scientific conferences and journals		
		2.				
		3.				