1.	Course title	**Machine Learning**	
2.	Course code	InIS-RO-Z-04	
3.	Study program	**Intelligent Systems Engineering**	
4.	Unit offering the course	**FCSE**	
5.	Undergraduate/master/PhD	**Master**	
6.	Year/semester 1/summer/compulsory	7. ECTS: **6**	
8.	Teacher(s)	prof. Ana Madevska Bogdanova, doc. Gjorgji Madzarov	
9.	Course prerequisites	None	
10.	Goals (competences): To enable the students to understand the concept of modelling appropriate data bases. The students should be capable of understanding the real-life problem and choose the most appropriate techniques and methods to solve it and interpret the results.		
11.	Course content: Algorithmic learning models, pattern recognition, prediction, supervises, unsupervidsed and reinforced learning,Neural networks, Support vector machines, decision trees. Real-life problems solvable with Machine learning techniques		
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	30+30+40+40+40 = 180 hours	

15.	Teaching activities	15.1.	Lectures	30 hours
		15.2.	Training (labs, problem solving), seminar and team work	30 hours
16.	Other activities	16.1.	Project work	40 hours
		16.2.	Self study	40 hours
		16.3.	Home work	40 hours

17.	Grading		
	17.1.	Tests	20 points
	17.2.	Seminar work/project (written or oral presentation)	50 points
	17.3.	Active participation	30 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				
		Compulsory				
	22.1.	No.	Authors	Title	Publisher	Year
		1.	Christopher M. Bishop	Pattern Recognition and Machine Learning	Springer	2006
		2.	R. Durbin, A. Krogh, G. Mitchinson, S. Eddy	Machine Learning: An Algorithmic Perspective	Chapman&Hall/CRC, Taylor and Francis group	2009
		3.	Andreas D. Baxevanis, B. F. Ouellette	Statistical and Machine learning Data mining	CRC, Taylor and Francis group	2012
	22.2.	Additional				
		No.	Authors	Title	Publisher	Year
		1.				
		2.				
		3.				