1.	Course Title	Intelligent systems
2.	Code	F18L3S107
3.	Study program	Software engineering and information systems
4.	Study Program Organizer	Faculty of Computer Science and Engineering
5.	Degree (first, second, third cycle)	first cycle
6.	Academic year / semester 4 / summer / optional	7. ECTS credits 6
8.	Teacher	full professor Ana Madevska Bogdanova
9.	Course enrollment prerequisites	Машинско учење

10.	Course program goals (competencies): The goal of the course is to complete the knowledge of students in the field of intelligent systems, starting from pre-processing data to validation of the built system. Students will be able to build an intelligent system from start to finish on real domain specific problems.

11.	Course program content: Overview of domains using modern Intelligent Systems; Contemporary techniques for data preprocessing; Modern machine learning techniques for building models of IP; Evaluation of IP models; Discriminant versus generative IP building methods; Special theme for sound processing, Fast Fourier transform, time and spatial domain; Methods of machine learning for sound processing; Aspects of cognitive modeling - a person as an intelligent system, cognitive architectures; Processing a real problem - methods for the best choice of pre-processing techniques, model and evaluation of constructed IS; Processing a real problem - designing an IS for a selected domain and its evaluation;

12.	Learning methods: Lectures using presentations, interactive lectures, exercises (using equipment and software packages), teamwork, case studies, invited guest lecturers, independent preparation and defense of a project assignment and seminar work.

13.	Total available time	6 ECTS x 30 hours = 180 hours	
14.	Distribution of the available time	30 + 45 + 15 + 15 + 75 = 180 hours	
15.	Teaching activity forms	15.1. Lectures – theoretical teaching	30 hours

		15.2.	Exercises (laboratory, auditory), seminar papers, teamwork	45 hours
16.	Other activity forms	16.1.	Project Tasks	15 hours
		16.2.	Independent Learning Tasks	15 hours
		16.3.	Home learning	75 hours

17.	Assessment methodology		
	17.1.	Tests	10 points
	17.2.	Seminar paper/project (presentation: written and oral)	30 points
	17.3.	Activity and learning	10 points
	17.4.	Final exam	50 points

18.	Assessment criteria (points/grade)	up to 50 points	5 (five) (F)
		51 to 60 points	6 (six) (E)
		61 to 70 points	7 (seven) (D)
		71 to 80 points	8 (eight) (C)
		81 to 90 points	9 (nine) (B)
		91 to 100 points	10 (ten) (A)

19.	Course completion and final exam requirements	Realized activities 15.1 and 15.2
20.	Teaching Language	Macedonian and English
21.	Teaching quality evaluation method	Internal evaluation mechanisms and questionnaires

22.	Course Material				
	22.1.	Mandatory course material			

No.	Author	Title	Publisher	Year
1	Grosan, Crina, Abraham, Ajith	Intelligent Systems, A Modern Approach	Springer	2011
2				0

22.2.	Additional course material			

No.	Author	Title	Publisher	Year