

1.	Course Title	Introduction to Smart Cities		
2.	Code	F18L3W088		
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 / winter / optional	7. ECTS credits 6		
8.	Teacher	Ph.D. Aleksandra Kanevche, full professor Ljupcho Kocarev		
9.	Course enrollment prerequisites	Машинско учење		
10.	Course program goals (competencies): The goal is to familiarize the student with the main concepts, topics and trends of smart and sustainable cities, the role of information in the design of network resources and the impact on urban design, development and urban living.			
11.	Course program content: What are smart cities? Architecture and design of smart cities. Technologies at hardware and network layer. Data and application layer of smart cities. Smart urban power networks. Smart urban transport systems. Smart urban health care systems. Urban models. Agent-based urban models. Application and trends of machine learning in smart cities. A description of examples of smart cities			
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)		10 points
	17.3.	Activity and learning		10 points
	17.4.	Final exam		70 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	H. Song, R. Srinivasan, T. Sookoor, S. Jeschke	Smart cities foundation, principles and applications
		2	C. Stimmel	Building Smart Cities, Analytics, ICT and Design Thinking
		3	Picon, A	Smart Cities: A Spatialised Intelligence
				Wiley
				2017
				CRC Press
				2015
				John Wiley & Sons
				2015
	22.2.	Additional course material		
		No.	Author	Title
				Publisher
				Year

