

1.	Course Title	Software Design and Architecture		
2.	Code	F18L3W009		
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 3 / winter / mandatory	7. ECTS credits 6		
8.	Teacher	full professor Ljupcho Antovski, full professor Dejan Gjorgjevikj, associate professor Gjorgji Madzharov		
9.	Course enrollment prerequisites	Анализа на софтверските барања или Софтверско инженерство		
10.	Course program goals (competencies): Students should learn the main concepts of the object oriented analysis and design. To introduce the students to the techniques of refactoring, design patterns and different software architectures. Upon completion of the course the students will be able to identify the restrictions and assess the quality of the software systems. They will be able to evaluate completeness and consistency of software specifications, and to design software architectures according the specific needs.			
11.	Course program content:			
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	Brett D. McLaughlin, Gary Pollice и Dave West	Head First Објектно ориентирана анализа и дизајн	Просветно дело	2009
		2	Eric Freeman, Elisabeth Robson, Bert Bates and Kathy Sierra	Head First Design Patterns	O'Reilly Media	2004
	22.2.	Additional course material				
		No.	Author	Title	Publisher	Year

