1.	Course Title	Software quality and testing		
2.	Code	F18L3S019		
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 / summer / optional	7. ECTS credits 6		
8.	Teacher	associate professor Anastas Mishev, assistant professor Hristina Mihajloska		
9.	Course enrollment prerequisites	Софтверско инженерство или Дизајн и архитектура на софтвер		
10.	Course program goals (competencies): The goal of this course is to understand the need for software testing, different techniques of software modeling, and using those models for testing. Also, practical software testing, verification, and validation are the goals of the proposed course.			
11.	Course program content: Introduction to software testing; Software validation and verification. V&V terminology and basics. Goals and restrictions of V&V, planning and documenting V&V. Types of testing, static analysis, and dynamic testing, functional and non-functional testing; Modeling software with graphs; Modeling of logical expressions; Input space partitioning; Syntax-based modeling; Testing object-oriented applications; Testing web applications and web services; Testing graphical user-interfaces; Modern trends in software testing.			
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	Paul Ammann and Jeff Offutt	Introduction to Software Testing (2nd edition)	Cambridge University Press	2016
2	Ilene Burnstein	Practical Software Testing: A Process-Oriented Approach	Springer Professional Computing	2006

22.2. Additional course material

No.	Author	Title	Publisher	Year