1.	Course Title	Software defined security
2.	Code	F18L3S159
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	Ph.D. Aleksandra Kanevche
9.	Course enrollment prerequisites	(Информациска безбедност или Мрежна безбедност) и (Веб прогрмирање или Интернет технологии или Имплементација на системи со отворен и слободен код)
10.	Course program goals (competencies): Understand and apply key concepts from developing secure software in terms of data, authentication, authorization, and secure web applications.	
11.	Course program content: Introduction to Secure Development LifeCycle (SDL). Components of the development of secure software. Activities in developing secure software and best practices. Design and development of SDL activities. Secure error processing and logging. Secure data protection by encryption. Security analysis of static code. Tools and practices for analyzing static code. Authentication. Types and vulnerabilities. Authorization. Types and vulnerabilities. Development of secure web applications. Requirements and configuration of a secure web server.	
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	Ransome, James, and Anmol Misra	Core software security: security at the source	CRC Press	2013
2	Scarioni, Carlo	Pro Spring Security.	Apress	2013
3	Matulevičius, Raimundas	Fundamentals of Secure System Modelling	Springer	2017

22.2. Additional course material

	No.	Author	Title	Publisher	Year