1.	Course title	**Advanced Cryptography**		
2.	Course code	KK-Z-01		
3.	Study program	**Coding and Cryptography**		
4.	Unit offering the course	**FCSE**		
5.	Undergraduate/master/PhD	**Master**		
6.	Year/semester 1(2)/winter/compulsory	7. ECTS: **6**		
8.	Teacher(s)	Prof. Smile Markovski, Assis. Prof. Vesna Dimitrova		
9.	Course prerequisites	None		
10.	Goals (competences): The student should be able to make their own design for the studied cryptographic packets.			
11.	Course content: Algorithms for generation huge prime numbers and relatively prime numbers; realization of algorithms for symmetric cryptography, RSA and ElGamal public crypto systems; realization of protocols for key distribution; cryptanalysis of simple crypto systems			
12.	Teaching methods: Lectures supported by slide presentations, interactive lectures, trainings (using lab equipment and software packages), team work, case studies, invited guests and lectures, individual practical assignments presentations, seminar paper, e-learning (forums, consultations).			
13.	Total available time	6 ECTS x 30 hours = 180 hours		
14.	Distribution of the available time	45 + 45 + 30 + 30 + 30 = 180 hours		
15.	Teaching activities	15.1.	Lectures	45 hours
		15.2.	Training (labs, problem solving), seminar and team work	45 hours
16.	Other activities	16.1.	Project work	30 hours
		16.2.	Self study	30 hours
		16.3.	Home work	30 hours
17.	Grading			
	17.1.	Tests		50 points
	17.2.	Seminar work/project (written or oral presentation)		30 points
	17.3.	Active participation		20 points
18.	Grading criteria	to 50 points		5 (five) (F)
		from 50 to 59 points		6 (six) (E)
		from 60 to 69 points		7 (seven) (D)
		from 70 to 79 points		8 (eight) (C)
		from 80 to 89 points		9 (nine) (B)
		from 90 to 100 points		10 (ten) (A)

19.	Final exam prerequisites			Successfully completed activities 15.1 and 15.2		
20.	Course language			Macedonian and English		
21.	Quality assurance methods			Internal evaluation and student questionnaires		
22.	Literature					
	22.1.	Compulsory				
		No.	Authors	Title	Publisher	Year
		1.	T. Baigneres, P. Junod at al.	A classiacal introduction to cryptography exercise book	Springer	2006
		2.	W. Stallings	Cryptography and Network Security	Prentice Hall	2005
		3.	N. Ferguson, B. Schneier	Practical Cryptography	Wiley Publishing, Inc.	2003
	22.2.	Additional				
		No.	Authors	Title	Publisher	Year
		1.	B. Schneier	Applied Cryptography: Protocols, Algorithms, and Source Code in C, Second Edition	John Wiley & Sons	1996
		2.	C. Kaufman, R. Perlman, M. Speciner	Network Security: Private Communication in a Public World (2nd Edition)	Prentice Hall PTR	2002
		3.	C. Paar, J. Pelzl	Understanding Cryptography: A Textbook for Students and Practitioners	Springer	2010