

1.	Course title	<b>Advanced Algebraic Structures</b>		
2.	Course code	KK-I-02		
3.	Study program	<b>Coding and Cryptography</b>		
4.	Unit offering the course	<b>FCSE</b>		
5.	Undergraduate/master/PhD	<b>Master</b>		
6.	Year/semester 1(2)/winter/elective	7. ECTS: <b>6</b>		
8.	Teacher(s)	Prof. Smile Markovski, Prof. Zaneta Popeska		
9.	Course prerequisites	None		
10.	Goals (competences): Introduction to algebraic structures needed for the other courses.			
11.	Course content: Studying the structures and properties of: <ul style="list-style-type: none"> <li>• groupoids: semigroups, groups and quasigroups</li> <li>• algebras with several operations: rings, fields, Boolean algebra</li> <li>• relational algebras</li> </ul> Especially will be considered the finite algebraic structures that are important for applications.			
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.	G. Cupona	Lectures of algebra	UKIM Skopje	
		2.	A. Clark	Elements of Abstract algebra	Dover Publ. Inc., New York	
	22.2.	Additional				
		No.	Authors	Title	Publisher	Year