

1.	Course	<i>Service Oriented Architectures</i>		
2.	Code	KNI_E13		
3.	Study programme	Computer Science and Engineering PhD study programme		
4.	Study programme organized by	FCSE		
5.	Cycle	Third – PhD		
6.	Academic year / semester winter/summer/elective	7. ECTS credits 7,5		
8.	Teacher	Prof. d-r Vladimir Trajkovikj		
9.	Prerequisites	None		
10.	Course programme goals (competences): The students will be capable to develop a service-oriented architecture, as well as implement services as a constituent part of the service oriented architectures.			
11.	Course syllabus: Introduction to service oriented architecture (SOA). SOA principles. SOA leveled structure. SOA evolution. SOA based protocols. SOA standards. Relationship between SOA protocols and web service protocols. Web services and primitive SOA. SOA extensions. SOA based systems security. SOA based interoperability. SOA information providers. Defining adapters for SOA needs principles. SOA implementation strategies. Service oriented analysis. Service modeling. Service structure building (service oriented design). Modeling business processes. Business processes modeling language (BPEL). Business processes scheme. Service orchestration. Using ESB in large companies. SOA and Web2.0 services. SOA and collaboration systems. SOA platforms. SOA examples. Evaluation of SOA based solutions.			
12.	Teaching methods: Classes supported with slide presentations, interactive teaching, lab equipment and other software packages, teamwork, case studies, invited guest lecturers, presentations of project works, e-learning materials, forums and consultations.			
13.	Total fund of work hours	7,5 EKTC x 30 h = 225 h		
14.	Available hours distribution	45+30+150 = 225		
15.	Teaching activities	15.1.	Theoretical classes	45 h
		15.2.	Practical classes (labs, exercises), seminars, team work	30 h
16.	Other activities	16.1.	Project tasks	50 h
		16.2.	Self study	50 h
		16.3.	Homework	50 h
17.	Grading			
	17.1.	Tests		40 points
	17.2.	Seminar work/ project (presentation: written and oral)		50 points
	17.3.	Active participation		10 points
18.	Grading criteria (points/grade)	to 59 points		5 (five) (F)
		from 60 to 68 points		6 (six) (E)

		from 69 to 76 points	7 (seven) (D)			
		from 77 to 84 points	8 (eight) (C)			
		from 85 to 92 points	9 (nine) (B)			
		from 93 to 100 points	10 (ten) (A)			
19.	Conditions for attending the final exam	Successful completion of activities 15.1 and 15.2				
20.	Language	Macedonian or English				
21.	Quality assessment	Internal evaluation and student pools				
22.	Literature					
	22.1.	Compulsory				
		No.	Author	Title	Publisher	Year
		1.	Thomas Erl	Service-Oriented Architecture: Concepts, Technology, and Design	Prentice Hall	2005
		2.	Dirk Krafzig, Karl Banke, Dirk Slama	Enterprise SOA: Service-Oriented Architecture Best Practices	Prentice Hall	2004
	3.	Nicolai M. Josuttis	SOA in Practice: The Art of Distributed System Design	O'Reilly Media	2007	
	22.2.	Additional				
		No.	Author	Title	Publisher	Year
		1.	James P. Lawler, James P. Lawler, H. Howell-Barber	Service-Oriented Architecture: SOA Strategy, Methodology, and Technology	Auerbach	2007
		2.	Michael Havey	Essential Business Process Modeling	O'Reilly Media	2005
3.						