

1.	Course	<i>Multiagent systems</i>		
2.	Code	KNI_E17		
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 Sonja Gievska		
9.	Prerequisites	None		
10.	Course programme goals (competences): The students will obtain knowledge about multi-agent systems.			
11.	Course syllabus: The course is aimed to discuss topics on agent-based systems. The first part will be directed towards the historical development and agent classification and usage domains, with a special attention given to logical basics for mental states, knowledge and conviction. In the focus of the second part of the course is the communication and cooperation of multi-agent systems that includes theories, languages, methodologies and applications. Special attention will be given to the topics related to decision making in multi-agent systems like: group decisions, coalition forming, resource allocation, negotiations, discussions, auctions, distributed optimization and game theory applications in modeling and developing agent systems. Modeling and simulation of complex systems using multi-agent technologies.			
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			
Literature					
22.	Compulsory				
	No.	Author	Title	Publisher	Year
	1.	Michael Wooldridge	Introduction to MultiAgent Systems, Second Edition	John Wiley & Sons	2009
	2.	Yoav Shoham & Kevin Leyton-Brown	MultiAgent Systems: Algorithmic, Game-Theoretic, and Logical Foundations	University Press	2009
	3.	Marc-Philippe Huget (Ed.)	Communication in Multiagent Systems: Agent Communication Languages and Conversation Policies	Springer-Verlag	2003
	Additional				
	No.	Author	Title	Publisher	Year
1.		Current Proceedings of IEEE/WIC/ACM International Conference on Agent Technology			
2.					
3.					