1.	Course			*Computer Vision*	
2.	Code			KNI_E19	
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 Dejan Gjorgjevikj, Prof. d-r Gjorgji Madzarov	
9.	Prerequisites			None	
10.	Course programme goals (competences): The students will be able to apply different techniques for solving real application problems in computer vision like signs recognition, detection and face recognitions, movement estimation, automatic tracking, gesture recognition, automatic product quality control, etc.				
11.	Course syllabus: Introduction to computer vision. Using computers to download images, image transformation, extracting symbolic knowledge from images. Image formation, sensors and cameras. Filtering, calibration, image processing and segmenting. Markings discovery and extraction, 2D objects recognition, matching and registering, multi view geometry, projections geometry, 3D reconstruction, 3D objects recognition, movements structure, segmentation, tracking, learning and statistical models, image and video databases.				
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.	David Forsyth and Jean Ponce	Computer Vision: a Modern Approach	Prentice Hall	2002
		2.	Richard Szeliski	Computer Vision: Algorithms and Applications	Springer	2011
		3.	Bernd Jahne, Horst Haussecker, Peter Geissler	Handbook of Computer Vision and Applications	Academic Press	1999
	22.2.	Additional				
		No.	Author	Title	Publisher	Year
		1.				
		2.				
		3.				