1.	Course title	Logical and functional programming		
2.	Course code	CSEW309		
3.	Study program	INFO		
4.	Unit offering the course	**FCSE**		
5.	Undergraduate/postgraduate/PhD	**Undergraduate**		
6.	Year/semester	7. ECTS: **6**		
8.	Teacher(s)	d-r Sonja Gievska, d-r Igor Trajkovski		
9.	Course prerequisites	Discrete Mathematics 1		
10.	Goals (competences): The goal of this course is to learn the basic concepts of logical and functional programming. Students will develop programs using declarative and functional programming. Topics that will be covered in this course are good basis for the incoming problems from the domain of artificial intelligence / intelligent systems.			
11.	Course content: Propositional calculus, Methods for propositional reasoning, Principe of resolution, Predicate logic, Introduction to PROLOG, Automated theorem proving, Recursion in PROLOG, Structured programming in PROLOG, Searching in PROLOG, Classes of problems suitable for solving with declarative programming, Introduction to LISP and functional programming, Evaluation of S-expressions, Functions in LISP, Recursion in LISP, Associative data structures, Objects and relational models in LISP, Classes of problems suitable for solving with functional programming, Comparing the functional and declarative paradigm .			
12.	Teaching methods: Teaching, supported by slides, interactive lecturing, exercises, projects, guest lectures, programming assigments.			
13.	Total available time	6 ECTS x 30 hours = 180 hours		
14.	Distribution of the available time	30 + 30 + 40 + 40 + 40		
15.	Teaching activities	15.1.	Lectures	30 hours
		15.2.	Training (labs, problem solving), seminar and team work	30 hours
16.	Other activities	16.1.	Project work	40 hours
		16.2.	Self study	40 hours
		16.3.	Home work	40 hours
17.	Grading			
	17.1.	Tests		80 points
	17.2.	Seminar work/project (written or oral presentation)		10 points
	17.3.	Active participation		10 points
18.	Grading criteria	to 50 points		5 (five) (F)
		from 51 to 60 points		6 (six) (E)

				from 61 to 70 points		7 (seven) (D)
				from 71 to 80 points		8 (eight) (C)
				from 81 to 90 points		9 (nine) (B)
				from 91 to 100 points		10 (ten) (A)
19.	Final exam prerequisites			Finished activities 15 and 16		
20.	Course language			English		
21.	Quality assurance methods			Mechanisms of internal evaluation and polls		
22.	Literature					
	22.1.	Compulsory				
		No.	Authors	Title	Publisher	Year
		1.	J. Darlington, Peter Henderson, D. A. Turner	Functional Programming and its Applications	Prentice Hall	1982
		2.	Burnham W. and Hall A.	Prolog Programming and Applications	New York: Halsted Press	1986
		3.	Bratko I.	Prolog Programming for Artifical Intelligence	MA: Addison Wesley	2001
		4	Paul Graham	On Lisp**:** Advanced Techniques for Common Lisp	Prentice Hall	1994
	22.2.	Mandatory				
		No.	Authors	Title	Publisher	Year
		1.				
		2.				
		3.				