

NAME OF THE COURSE		Introduction to Artificial Intelligence				
Code	PMII10	Year of study	GU-1 UGU-3			
Course teacher	izv. prof.dr. sc. Saša Mladenović	Credits (ECTS)	5,0			
Associate teachers	dr. sc. Goran Zaharija	Type of instruction (number of hours)	L	S	E	F
			30		30	
Status of the course		Percentage of application of e-learning				
COURSE DESCRIPTION						
Course objectives	<p>Artificial Intelligence (AI) is devoted to the computational study of intelligent behavior. The element that the fields of AI have in common is the creation of agents/machines that can "think". This course will cover a broad introduction to the techniques that enable agents/computers to behave intelligently: problem solving, representing knowledge, reasoning, learning, perceiving, and interpreting. The bulk of this course reflects this diversity. We will examine the fundamental questions and issues of AI and will explore the essential techniques. The course is project oriented, with programming assignments spread throughout the semester using the LISP based NetLogo programming environment and Prolog programming language.</p>					
Course enrolment requirements and entry competences required for the course	None.					
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	<p>Upon successful completion of this course, the student will be able to:</p> <ol style="list-style-type: none"> 1. To understand the modern view of AI as the study of agents that receive percepts from the environment and perform actions 2. Describe the major applications, topics, and research areas of artificial intelligence (AI), including search, machine learning, knowledge representation and inference, natural language processing, vision, and robotics. 3. Apply basic techniques of AI in computational solutions to problems. 4. Discuss the role of AI research areas in growing the understanding of human intelligence. 5. Identify the boundaries of the capabilities of current AI systems. 					
Course content broken down in detail by weekly class schedule (syllabus)	<ol style="list-style-type: none"> 1. Introduction to concept of intelligence (2h) 2. Multiple types of intelligence (2h) 3. Intelligent Agents and environments (2h) 4. Problem Solving by Search (2h) 5. Uninformed Search algorithms (4h) 6. Informed Search algorithms (2h) 7. Midterm 8. Artificial Neural Networks (2h) 9. Multiagent systems (2h) 10. Knowledge representation (2h) 11. Genetic algorithms (2h) 12. Special Topics: Learning, Robots in education (2h) 13. Practical examples of artificial intelligence usage (2h) 14. Artificial intelligence and ethical problems (2h) 15. Project (2h) <p>Laboratory exercises match lecture topics and schedule.</p>					

Format of instruction	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> on line in entirety <input checked="" type="checkbox"/> partial e-learning <input type="checkbox"/> field work	<input checked="" type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input checked="" type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> homework assignments				
Student responsibilities	Lecture and laboratory attendance, active participation in course activities, homework and project realization, final exam.					
Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)	Name	Ects	Name	Ects	Name	Ects
	Class attendance	1	Research	0,5	Experimental work	
	Oral exam	0,5	Report		Homework assignments	
	Seminar essay		Essay			
	Tests	0,5	Practical training	1		
	Written exam	0,5	Project	1		
Grading and evaluating student work in class and at the final exam	Attendance/Participation (20%) Midterm / Project (40%) Final/Oral Exam (40%)					
Required literature (available in the library and via other media)	Title			Number of copies in the library	Availability via other media	
	Artificial Intelligence: A Modern Approach. Stuart Russell and Peter Norvig Prentice Hall, 2009 ISBN:0136042597 9780136042594			0		
	Lecture notes: Uvod u umjetnu inteligenciju, Saša Mladenović, Goran Zaharija			0	yes	
Optional literature (at the time of submission of study programme proposal)	Online Student material, including solutions to selected problems and additional reading					
Quality assurance methods that ensure the acquisition of exit competences	Student discussion, anonymous student evaluation questionnaire, student success rate, self-assessment					
Other (as the proposer wishes to add)						