

Study program: Informatics				
Type and level of studies: Undergraduate academic studies				
Course unit: Introduction to Artificial Intelligence				
Teacher in charge: Visnja Simic				
Language of instruction: English				
ECTS: 6				
Prerequisites: Programming skills, Basic data structures and algorithms, Discrete mathematics, Probability (basic)				
Semester: Summer				
Course unit objective Learning basic concepts, ideas, methods and techniques of artificial intelligence.				
Learning outcomes of Course unit Student knows the basic and most commonly used methods in the field of artificial intelligence. Student is able to solve problems with methods of artificial intelligence.				
Course unit contents <i>Theoretical classes:</i> Introduction to Artificial Intelligence, examples of applications. Knowledge representation and expert systems: knowledge representation with rules. Handling uncertain knowledge: fuzzy logic, fuzzy inference systems. State space and basic search algorithms: depth-first, breadth-first and iterative deepening, complexity of these algorithms. Heuristic search, algorithms A* and IDA*, admissibility theorem for A*, properties of heuristic function and analysis of time and space complexity. Adversarial search. Introduction to machine learning: problem of learning from data, decision trees, neural networks, linear regression. <i>Practical classes:</i> Implementation of algorithms from theoretical classes.				
Literature 1. S. Russell, P. Norvig, Artificial Intelligence: A Modern Approach, Third edition, Pearson Education, Prentice-Hall 2010, ISBN: 0136042597. 2. P. H. Winston, Artificial Intelligence (3rd Edition), Pearson, 1992, ISBN: 0201533774.				
Number of active teaching hours				Other classes: 0
Lectures: 0	Practice: 0	Other forms of classes: 1	Independent work: 5	
Teaching methods Consultations, Independent work				
Examination methods (maximum 100 points)				
Exam prerequisites	No. of points	Final exam	No. of points	
Practical classes/tests	30	Written examination	50	
Seminars/homework	20			

Grading system		
Grade	No. of points	Description
10	≥ 91	Excellent
9	81-90	Exceptionally good
8	71-80	Very good
7	61-70	Good
6	51-60	Passing
5	≤ 50	Failing