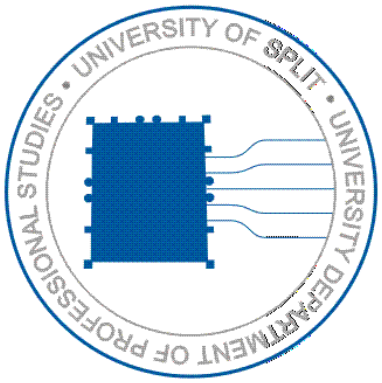
Course syllabus

Applied Artificial Intelligence



COURSE DETAILS		
Type of study programme	Specialist graduate professional study programme - 120 ECTS	
Study programme	INFORMATION TECHNOLOGIES	
Course title	Applied Artificial Intelligence	
Course code	DIT011	
ECTS (Number of credits allocated)	6	
Course status	Elective	
Year of study	First	
Course Web site	http://moodle.oss.unist.hr/	
Total lesson hours per semester	Lectures	30
	Practicals	15
	Seminar	15
Prerequisite(s)	Advanced programming skills	
Lecturer(s)	Department of Information technologies: Toma Rončević, PhD, senior lecturer	

COURSE DESCRIPTION	
Course Objectives:	• introduction to methods from artificial intelligence and their application to specific problems.
Learning outcomes ***On successful completion of this course, student should be able to:***	1. define basic methods and algorithms from area of artificial intelligence, 2. demonstrate ideas behind different algorithms and their use, 3. select methods for specific problems, 4. determine and demonstrate bugs in program, recognise problems adequate for methods from artificial intelligence, 5. formulate problems as problems from area of artificial intelligence or improve existing code using learned methods, 6. evaluate applications and background algorithms used for their implementation.
Course content	Introduction and motivation for use of methods from area of artificial intelligence and their application. Programming, algorithms and data structures. Agents and environments. Informed and uninformed search. Reinforcement learning. Two player games: minimax and MTCS algorithms. Machine learning. Linear models for regression and classification. Neural nets. Using regression models for reinforcement learning. Other types of learning. Application of machine learning for other domains.

CONSTRUCTIVE ALIGNMENT – Learning outcomes, teaching and assessment methods

Alignment of students activities with learning outcomes		
Activity	**Student workload ECTS credits**	**Learning outcomes**
Lectures	30 hours / 1 ECTS	1,2,3,4,5
Practicals	15 hours / 0.5 ECTS	3,4,5
Seminar	15 hours / 0.5 ECTS	2,3,4,5,6
Self-study	105 hours / 3.5 ECTS	1,2,3,4,5,6
Office hours and final exam	15 hours / 0.5 ECTS	1,3,5
TOTAL:	**180 hours / 6 ECTS**	**1,2,3,4,5,6**

CONTINUOUS ASSESSMENT		
Continuous testing indicators	**Performance A_i (%)**	**Grade ratio k_i (%)**
Class attendance and participation	70 – 100	100

FINAL ASSESSMENT		
Testing indicators – final exam (first and second exam term)	**Performance A_i (%)**	**Grade ratio k_i (%)**
Seminar (practical exam)	50 - 100	50
Theoretical exam (written and/or oral)	50 – 100	50
Previous activities (include all continuous testing indicators)	50 – 100	0
Testing indicators – makeup exam (third and fourth exam term)	**Performance A_i (%)**	**Grade ratio k_i (%)**
Practical exam (written)	50 - 100	50
Theoretical exam (written and/or oral)	50 - 100	50

PERFORMANCE AND GRADE		
Percentage	**Criteria**	**Grade**
50% - 61%	*basic criteria met*	sufficient (2)
62% - 74%	*average performance with some errors*	good (3)
75% - 87%	*above average performance with minor errors*	very good (4)
88% - 100%	*outstanding performance*	outstanding (5)

ADDITIONAL INFORMATION

Teaching materials for students (scripts, exercise collections, examples of solved exercises), teaching record, detailed course syllabus, application of e-learning, current information and all other data are available by MOODLE system to all students.