

## Specification for the book of courses

<b>Study program</b>		Computing and Informatics		
<b>Module</b>		Information Systems and Technologies		
<b>Type and level of studies</b>		Master studies		
<b>The name of the course</b>		Intelligent Information Systems		
<b>Lecturer (for lectures)</b>		Tošić B. Milorad		
<b>Lecturer/associate (for exercises)</b>		Bogdanović D. Miloš		
<b>Lecturer/associate (for OFE)</b>				
<b>Number of ECTS</b>	4	<b>Course status (obligatory/elective)</b>	Elective	
<b>Prerequisites</b>	Exams passed: Information Systems, Web Programming and Artificial Intelligence.			
<b>Course objectives</b>	Gaining practical programming skills, theoretical knowledge and systematic approach required for the design, implementation and operation of systems in which information technologies, computers, the Internet, and humans act in concert to achieve results that are characterized as intelligent.			
<b>Course outcomes</b>	Students are able to identify areas of usage, specific problems and relevant theoretical concepts needed to solve them, possess practical programming skills needed to implement specific examples of usage.			
<b>Course outline</b>				
<b>Theoretical teaching</b>	Common conceptual foundations: data models, information and knowledge, the basic technologies (Internet, databases, artificial intelligence, information retrieval), business aspects, mathematical basics. Intelligent databases, deductive and active databases, intelligent information retrieval. Reasoning. Web and Intelligent Information Systems: Ontologies, Linked Data, Semantic Web, Social Networks, Collaborative Systems, and expandable network of small diameter. Programming at the level of the end user. Architecture of intelligent information systems: service-oriented and multi-agent architectures. Knowledge based systems. Information retrieval and navigation: Web agents, data collection from the web "crawling" Intelligent Web Tools, Web search engines and issue of semantics. Information management, information flow, integration and semistructured information resources, XML and RDF based information presentations.			
<b>Practical teaching (exercises, OFE, study and research)</b>				
<b>Textbooks/references</b>				
1	Online materials for lectures and exercises			
2	Existing source code repository in the Laboratory			
3	Dietz, Jan LG. What is Enterprise Ontology?. Springer Berlin Heidelberg, 2006.			
4	Keet, CM. An Introduction to Ontology Engineering. v1.0, July 2018, 270p.			
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<b>Number of classes of active education per week during semester/trimester/year</b>				
<b>Lectures</b>	<b>Exercises</b>	<b>OFE</b>	<b>Study and research work</b>	<b>Other classes</b>
2	1	0		
<b>Teaching methods</b>	Lectures, Auditorial exercises, Laboratory exercises; Consultations, Independent students' research; students' oral presentation to the selected / given topics; Active students' participation in the classroom using online code and documents repository available in the Laboratory.			
<b>Grade (maximum number of points 100)</b>				
<b>Pre-exam duties</b>	<b>Points</b>	<b>Final exam</b>	<b>Points</b>	
<b>Activity during lectures</b>	30	<b>Written exam</b>		
<b>Exercises</b>	30	<b>Oral exam</b>	40	
<b>Colloquia</b>				
<b>Projects</b>				