

Specification for the book of courses

Study program		Control Systems		
Module		Common		
Type and level of studies		Master studies		
The name of the course		Computer Control Systems		
Lecturer (for lectures)		Jovanović D. Zoran		
Lecturer/associate (for exercises)		Spasić D. Miodrag		
Lecturer/associate (for OFE)				
Number of ECTS	5	Course status (obligatory/elective)	Obligatory	
Prerequisites				
Course objectives	Acquiring knowledge about computer control systems applied in centralized and distributed systems.			
Course outcomes	Practical knowledge of the application of computers in the process industry and in the management of systems of decentralized and distributed structure (electrodistubutive, municipal, energy systems). Different levels and equipment in the process industry, from the production process to the business information system (PIS).			
Course outline				
Theoretical teaching	Problems of managing complex technological processes. Centralized management. Distributed management. Hierarchical management. Select real-time PCs. Input output devices. Real-time system software support. Merging computers with technological processes. Application of microcomputers in the design and implementation of control systems. Application of the PLC system in process management. Application of computers in the process industry, in the management of machine tools and in the management of utility systems.			
Practical teaching (exercises, OFE, study and research)	Designing projects and realization of control algorithms and programs on various development platforms of programmable logic controllers. The acquired knowledge is verified on laboratory models made in the framework of student projects. Self-created application software is first checked within the development environment, and then on the models until complete program correction is performed.			
Textbooks/references				
1	G. Olsson, G. Piani, "Computer Systems for Automation and Control", Prentice Hall, 1992.			
2	G. Kalani, "Industrial Process Control", Elsevier Science, 2002.			
3	M. Tooley, "PC-based Instrumentation and Control", Newnes, 2001.			
4				
5				
Number of classes of active education per week during semester/trimester/year				
Lectures	Exercises	OFE	Study and research work	Other classes
2	2	0		
Teaching methods	Предавања; Аудиторне вежбе; Рачунарске вежбе; Консултације; Самосталан рад студената на изради домаћих задатака, и пројеката.			
Grade (maximum number of points 100)				
Pre-exam duties		Points	Final exam	Points
Activity during lectures		10	Written exam	
Exercises			Oral exam	40
Colloquia				
Projects		50		