

## Specification for the book of courses

<b>Study program</b>		Control Systems		
<b>Module</b>		Automatic Control		
<b>Type and level of studies</b>		Master studies		
<b>The name of the course</b>		Control of Large-scale Systems		
<b>Lecturer (for lectures)</b>		Mitić B. Darko, Perić Lj. Staniša		
<b>Lecturer/associate (for exercises)</b>		Milovanović B. Miroslav		
<b>Lecturer/associate (for OFE)</b>				
<b>Number of ECTS</b>	5	<b>Course status (obligatory/elective)</b>	Elective	
<b>Prerequisites</b>				
<b>Course objectives</b>	Gaining knowledge of the control of large-scale systems, multivariable systems, centralized and decentralized systems.			
<b>Course outcomes</b>	Knowledge of control of multivariable dynamical systems with centralized and decentralized information and control structure.			
<b>Course outline</b>				
<b>Theoretical teaching</b>	Control systems with centralized information and control structure. Multivariable control systems. The generalization of the classical methods for the synthesis of a multivariable control systems. Robustness of multivariable systems. Linear quadratic and linear Gaussian quadratic controller. Robustness of control systems with linear quadratic regulator. Control systems with decentralized information and control structure. Control of large-scale dynamical systems with decentralized information and control structure. Robustness of large-scale dynamical systems with decentralized information and control structure. Generalization and application of the results of the robustness of decentralized systems. Modern concepts in the design of control systems of technological processes.			
<b>Practical teaching (exercises, OFE, study and research)</b>				
<b>Textbooks/references</b>				
1	Graham C. Goodwin, Stefan F. Graebe, Mario E. Salgado, "Control System Design", Pearson, 2001.			
2	S. Skogestad, I. Postlethwaite, "Multivariable Feedback Control: Analysis and Design", John Wiley & Sons, 2001.			
3	Dj. Petkovski, "Modern methods of automatic control of large-scale systems: Theory and applications", Privredni pregled, Belgrade, 1983. (in Serbian)			
4				
5				
<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	2	0		
<b>Teaching methods</b>	Lectures; Auditory exercises; Computer exercises; Consultations			
<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>		<b>Written exam</b>	30	
<b>Exercises</b>		<b>Oral exam</b>	30	
<b>Colloquia</b>				
<b>Projects</b>	40			