

Specification for the book of courses

Study program		Electrical Engineering and Computer Science		
Module		Communications and Information Technologies - Communications and Information Processing		
Type and level of studies		Undergraduate Academic Studies		
The name of the course		Sensor Networks		
Lecturer (for lectures)		Nikolić B. Zorica, Milošević D. Nenad		
Lecturer/associate (for exercises)		Anastasov A. Jelena		
Lecturer/associate (for OFE)		Eferica M. Predrag		
Number of ECTS	5	Course status (obligatory/elective)	Elective	
Prerequisites				
Course objectives	Learning basic knowledge related to architecture and protocols of sensor networks. Creating a knowledge base for training in the analysis and design of sensor networks.			
Course outcomes	Knowledge of sensor networks and their properties. Understanding the basic concepts of sensor networks. The use of sensor networks in different scenarios (industry, general data acquisition, intelligent house, ...). Learning and understanding of the correlation between theory and its application to specific scenarios of use sensor networks.			
Course outline				
Theoretical teaching	Introduction. Node architecture. Overview of operating systems. Network architecture. Principles of designing sensor networks. Physical layer. Wireless channel and communication. Physical layer parameters and the transceiver. MAC protocols. Data link protocols. Naming and addressing. Time synchronization. Introduction to the problem of time synchronization. Protocols for time synchronization. Transport Layer and Quality of Service.			
Practical teaching (exercises, OFE, study and research)	Auditory and laboratory exercises are performed in all thematic areas.			
Textbooks/references				
1	H. Karl, A. Willig, Protocols and Architectures for Wireless Sensor Networks, Wiley, 2005			
2	S. Phoha, T. La Porta, C. Griffin, Sensor Network Operations, Wiley-IEEE Press, 2006			
3				
4				
5				
Number of classes of active education per week during semester/trimester/year				
Lectures	Exercises	OFE	Study and research work	Other classes
3	1	1	0	0
Teaching methods	Giving lectures, auditory and laboratory exercises.			
Grade (maximum number of points 100)				
Pre-exam duties	Points	Final exam	Points	
Activity during lectures	10	Written exam	20	
Exercises	10	Oral exam	20	
Colloquia	40			
Projects				