

Specification for the book of courses

Study program	Electrical Engineering and Computer Science			
Module	Communications and Information Technologies - System Engineering and Radio-Communications			
Type and level of studies	Undergraduate Academic Studies			
The name of the course	Smart systems and IoT			
Lecturer (for lectures)	Maleš-Ilić P. Nataša, Pronić-Rančić R. Olivera			
Lecturer/associate (for exercises)	Atanasković S. Aleksandar			
Lecturer/associate (for OFE)	Atanasković S. Aleksandar, Dimitrijević Ž. Tijana			
Number of ECTS	5	Course status (obligatory/elective)	Obligatory	
Prerequisites				
Course objectives	Getting acquainted with concepts of smart systems and Internet of Things (IoT). Getting the necessary knowledge about function and design of smart systems.			
Course outcomes	Ability to understand functioning of smart systems and IoT. Ability to design individual software and hardware solutions for simpler smart systems. Ability to understand role and significance of IoT concepts in modern society. Ability to design a simple IoT system and to present the project results.			
Course outline				
Theoretical teaching	Students will get the basic knowledge about the smart system concept. They will get knowledge about sensors and actuators as well as to communication techniques and data processing for IoT. Understanding of security and power management issues in smart systems. Knowledge about different platforms for IoT. Understanding of possible applications, development trends and social aspects of IoT systems.			
Practical teaching (exercises, OFE, study and research)	Solving selected problems in computational exercises. Practical work in the laboratory. Work on the project. Lecture by experts from companies and a study visit to one of the companies to learn about how to implement smart systems.			
Textbooks/references				
1	D. Serpanos, M. Wolf, Internet-of-Things (IoT) Systems: Architectures, Algorithms, Methodologies, Springer 2018.			
2	D. Drajić, Introduction to IoT (Internet of Things) (in Serbian), Akademik mind, Belgrade, 2017.			
3	D. Drajić, Smart cities (in Serbian), Akademik mind, Belgrade, 2018.			
4				
5				
Number of classes of active education per week during semester/trimester/year				
Lectures	Exercises	OFE	Study and research work	Other classes
2	1	2	0	0
Teaching methods	Lectures on theoretical concepts. Tutorials with practical examples of development of hardware and software solutions. Laboratory exercises. Team project.			
Grade (maximum number of points 100)				
Pre-exam duties	Points	Final exam	Points	
Activity during lectures	5	Written exam		
Exercises	30	Oral exam	50	
Colloquia				
Projects	15			