

<b>Study program: Information Technology</b>			
<b>Course title: INTERNET INTELLIGENT OF THINGS</b>			
<b>Teacher(s): Vladimir M. Mladenović, Marjan D. Milosevic</b>			
<b>Course status: mandatory</b>			
<b>Number of ECTS credits: 6</b>			
<b>Prerequisite courses: none</b>			
<b>Course objectives</b>			
Training for the design of "smart" systems, implementation of various disciplines, technologies and tools into business opportunities and connections into a unique system, such as: Smart Home, Smart Car, Smart Agriculture Smart Farming), Smart Environment, Smart applications for health care (eHealth), Smart Parking, etc. Connecting devices and sensors in combination with a sophisticated computer cloud infrastructure, in new systems for communication, management and monitoring, and forecasting new services. At the end of the course, the student creates a part of a smart system or application through a real project on the subject.			
<b>Learning outcomes</b>			
At the end of the course, the student is expected to functionally use devices intended for designing smart systems, such as raspberry pi and arduino, to program on one of the software tools used to create the Internet of Things (IoT), such as python, set the system to be web-oriented, and it is expected to independently implement complex smart systems with the possibility of creating services and connecting to the Internet. According to the hardware elements, the student will be able to adequately recognize and decide on the use of sensors, as well as perform monitoring and management via the Internet of intelligent devices.			
<b>Content of the course</b>			
<i>Theoretical teaching</i>			
Concept, architecture and introduction to the internet of intelligent devices. Sensors. Actuators. Communication devices. Microcontrollers. Protocols for communication between devices. Internet: layers, protocols, packages, services. TCP, UDP, socket programming. Networks. Processing of collected data. An example of a complex IoT project.			
<i>Practical teaching</i>			
Selection, structuring, design and development of smart systems. Creating applications in the python programming language. A practical project.			
<b>Literature</b>			
[1] Adrian McEwen, Hakim Cassimally, Designing the Internet of Things, Wiley, 2013, ISBN: 111843062X			
[2] Uckelmann, Dieter, Harrison, Mark, Michahelles, Florian, Architecting the Internet of Things, Springer, 2011, ISBN 978-3-642-19157-2			
[3] Dejan Drajić, Introduction to IoT: (Internet of Things), Belgrade: Akademska misao, 2017, ISBN - 978-86-7466-670-8			
[4] Alfred Lui, Elizabeth Goodman, Anne Light, Claire Rowland, and Martin Charlier, Designing Connected Products: UX for the Consumer Internet of Things, O'Reiley, 2015, ISBN 978-1-4493-7256-9			
[5] Rolf H. Weber, Romana Weber, Internet of Things - Legal Perspectives, Springer, 2009, ISBN 978-3-642-11710-7			
[6] 6. Božidar Radenković, Internet of intelligent devices = Internet of things, Belgrade: Faculty of Organizational Sciences, 2017, ISBN - 978-86-7680-339-2.			
<b>Number of active teaching classes: 4</b>		<b>Theoretical teaching: 2</b>	<b>Practical teaching: 2</b>
<b>Teaching methods</b>			
Realization of lectures and exercises according to the model of interactive teaching (popular lecture, discussion, methods of demonstration, practical work, research, workshops); activated forms of learning: verbal sense receptive learning, cooperative, practical and discovery learning.			
<b>Evaluation of knowledge (maximum number of points 100)</b>			
<b>Pre-exam obligations</b>	<b>Points</b>	<b>Final exam</b>	<b>Points</b>
Activities during teaching process	10	Final exam (oral):	50
Practice teaching	20		
Project	20		