

Study program: Multimedial communication technologies			
Course title: Wireless transmission techniques			
Professor/assistant: Srđan Jovkovic			
Type of course: compulsory			
ECTS credits: 8			
Pre-requisites:			
Aims of the course:			
<p>Preparing students to understand the basic concepts of setting up base stations, wireless connectivity, wireless representation, displaying standards for transmitting signals wirelessly.</p> <p>to explain the basics of OFDM modulation techniques and their application.</p> <p>to realize addressing and locating the user itself.</p> <p>to perform distribution of channels in wireless transmission by frequencies.</p> <p>to understand problems due to the transmission of signals and data packets through the wireless system and their protection.</p> <p>to remove interference when transmitting signals and data packets wirelessly using diversion technique</p>			
Learning outcomes:			
<p>After the passed exam, the student is expected to:</p> <p>Self-handling basic wireless devices</p> <p>perform spectral analysis of the signal and to analyze the signal strength.</p> <p>spot the problems of realization, connectivity and suggest appropriate methods of solving.</p> <p>apply diversification techniques in wireless communications.</p> <p>apply acquired knowledge in solving engineering problems</p>			
Syllabus			
<u>Theoretical part</u>			
Introduction with basic features of mobile technology. PLC technology, FWA technology. Satellite systems and video signal transmission via mobile telephony. Power supply. Transfer wireless data. Study of data transmission via cellular phones. Use diversify techniques. OFDM modulation technique.			
<u>Practical part</u>			
Presentation of practical connection and commissioning of basic external base station. Working on Android and cellular mobile phones.			
Literature			
<ol style="list-style-type: none"> 1. Мирослав Дукић, Принципи телекомуникација, Академска мисао, 2008 2. Р. Александар, Мобилна телефонија треће генерације, Академска мисао, 2003 3. Борислав Тадић, Мобилне комуникације, научна књига, 2001 4. Matthias Patzold, <i>Mobile Fading channels</i>, issued 2002. 			
Number of active classes			Other forms of teaching:
Lectures: 45	Practical classes: 30	Research work:	
Teaching methods			
Teaching method is carried out in the form of lectures, calculus and practical exercises. The inductive method is used in the lectures. Based on a series of simpler examples, conclusions are drawn and formed knowledge that over time becomes an engineering intuition			
Grading system (maximum 100 points), grading scale from 5 to 10: below 51 points grade 5, grade 6 from 51-60 points, grade 7 from 61-70 points, grade 8 from 71-80 points, grade 9 from 81-90 points, grade 10 from 91-100 points.			
Pre-exam obligations	points	Final exam	points
activity during theoretical lectures	10	written exam	
practical training	10	oral exam	40
colloquium(s)/seminar papers	30		
seminar			
Sum	70	Sum	40