

Study program: Communication Technologies			
Course title: Switching Systems			
Professor/assistant: Srdjan Jovkovic			
Type of course: elective			
ECTS credits: 6			
Pre-requisites:			
Aims of the course:			
Preparing students to: Adopt basic concepts related to setting up and connecting ISDN and ADSL to telephone exchanges and telecommunication networks. Addressing and locating the user. Displaying the transport layer of signal movement, protocols, problems of reliable signal transmission, data packet. Assigning a free pair to a user connected to the network. How does the matrix division of channels in commutation systems work? Forming the ATM network.			
Learning outcomes:			
Student will be able to: Independently recognize the switches used in telephony, implement ADSL and ADSL plus technology, plan telecommunication networks. To spot the problems of realization, connectivity and suggest appropriate methods of solving. They apply acquired knowledge in solving engineering problems.			
Syllabus			
<i>Theoretical part</i>			
Historical development of commutation systems. Terminal devices and organization of analog and digital switching systems. Space commutation block, block space-time switching. Digital telephone switching signal. Fully accessible beam with losses. Problems with the transfer of data transfer. Basics of Synchronous Digital Hierarchy (SDH). Synchronizing the digital network. Principles of asynchronous commutations.			
<i>Practical part:</i>			
Getting acquainted with the organization of the telephone network. An automatic connection between two subscribers in our country. Transit link through our country. Numbering plan. Numbering system. circuit switching. Microphone. Types of telephone sets. functions of commutation system			
Literature			
1 Матић, С., <i>Принципи комутација у телекомуникацијама</i> , Грађевинска књига, Београд, 1995.			
2. С. Стајковић, <i>Телекомуникациони саобраћај</i> , Београд 1995.			
3. Уџбеник „Дигитализовање сигнала „ ВЕТШ 2007			
Number of active classes 60			Other forms of teaching:
Lectures: 30	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	15	written exam	
practical training	15	oral exam	30
colloquium(s)/seminar papers	30		
seminar	10		
Sum	70	Sum	30