

Study program: Communication technologies			
Course title: Telecommunication Networks			
Professor/assistant: Nikola Sekulović, Ph. D			
Type of course: elective			
ECTS credits: 6			
Pre-requisites: none			
Aims of the course: Acquiring terms and basic knowledge in the field of telecommunication networks. Students should take insight into basic functions during connection establishing and distribution of functionality among the layers.			
Learning outcomes: After this course, it is expected that students are able to analyze performance of telecommunication networks and protocols.			
Syllabus			
<i>Theoretical part</i> Classification, organization and elements of telecommunication networks. Basic concepts of network transmission. Channel access methods. Layered network architecture. Functions and protocols of link layer. Functions and protocols of network layer. Algorithms for routing. Algorithms for controlling traffic congestion. Technology of digital subscriber line (DSL). Modeling of telecommunication traffic. Packet transmission of voice and video in IP networks. Security and integrity of data in telecommunications networks.			
<i>Practical part</i> Modeling of telecommunication traffic. Planning of telecommunication networks.			
Literature			
1. T. Saadawi, M. Ammar, A. El Hakeem, <i>Fundamentals of telecommunication networks</i> , John Wiley & Sons, NY, 1994.			
2. Z. Urošević, <i>Uvod u računarske telekomunikacije i mreže – transportni deo</i> , Tehnički fakultet u Čačku, 2004.			
3. M. Janković, Z. Petrović, <i>Širokopojasne digitalne mreže integriranih servisa: mreže za pristup</i> , Akademska misao, Beograd, 2003.			
4. D. Drajić, P. Ivaniš, <i>Uvod u teoriju informacija i kodovanje</i> , Akademska misao, Beograd, 2009.			
5. M. Bjelica, <i>Telekomunikacione mreže – zbirka rešenih zadataka</i> , Akademska misao, Beograd, 2009.			
Number of active classes			Other forms of teaching:
Lectures: 30	Practical classes: 30+15	Research work:	
Methods of teaching Lectures, computational exercises and exercises in laboratory on examples in practice, consultations.			
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	20
practical training		oral exam	20
colloquium(s)/seminar papers	50		
Sum	60	Sum	40