

Study program: Communication Technologies			
Course title: Digital Telecommunications			
Professor/assistant: Nikola Sekulović / Nikola Sekulović			
Type of course: compulsory			
ECTS credits: 8			
Pre-requisites: attended course in Elementary of Telecommunications			
Aims of the course: Acquiring knowledge in the field of digitalization of analog signals and transmission technique.			
Learning outcomes: After this course, it is expected that students are able to apply the obtained knowledge in solving practical problems regarding digitalization process, digital transmission and digital telecommunication systems analysis and design.			
Syllabus			
<u>Theoretical part</u> Digitalization of analogue signals. Sampling theorem. Uniform and non-uniform scalar quantization. Compression. Coding. PCM system. Scrambling. Line coding. Regenerative transmission. Digital modulations. Power and spectral efficiency of modulation techniques.			
<u>Practical part</u> Practical problem solving, system performance calculation and simulation of real systems and scenarios in program package <i>MatLab</i> .			
Literature			
1. G. Lukatela, D. Drajić, G. Petrović, R. Petrović, <i>Digitalne telekomunikacije</i> , Gradjevinska knjiga, Beograd, 1984.			
2. M. Dukić, <i>Principi telekomunikacija</i> , Akademska misao, Beograd, 2008.			
3. M. Dimić, <i>Telekomunikacije</i> , Beograd, 1999.			
Number of active classes			Other forms of teaching:
Lectures: 30	Practical classes: 30+15	Research work:	
Teaching methods 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	20	oral exam	10
colloquium(s)/seminar papers	40		
Sum	70	Sum	30