

Study program: Communication Technologies			
Course title: Electrical Engineering 1			
Professor/assistant: Dejan Blagojevic / Natasa Bogdanovic			
Type of course: compulsory			
ECTS credits: 8			
Pre-requisites: none			
Aims of the course:			
<ul style="list-style-type: none"> • meet the basic laws, principles and terminology in the field of electrostatics and the time constant currents, • learn basic size calculation in electrostatics, • learn specific circuit elements in the electric DC circuit. 			
Learning outcomes:			
Student is able to:			
<ul style="list-style-type: none"> • calculate basic values in electrostatic fields of homogeneous symmetric structures, • solve simple calculations related to the distribution of fields and potentials, • solve simple electrical circuits of direct currents. 			
Syllabus			
<i>Theoretical part</i>			
Electrostatics. Coulomb's law. Electrostatic field. Electrostatic potential. Conservative nature of the Electrostatic field. The distribution of fields. Electrostatic discharge prevention measures. Capacitors.			
Kinetics of direct currents. Ohm's Law. Joule's law. Kirchhoff laws and simple DC circuits. Complex DC circuits and methods for solving them. Terms adjustments.			
<i>Practical part:</i>			
Practical exercises follow the theory; laboratory exercises are practical assessment of the basic laws related to the electrostatic field and deal with analysis and setting of DC circuits (Ohm's law, Kirchhoff laws, Thevenin theorem).			
Literature			
1. Mitic, D., Vukcevic, B., Fundamentals of Electrical Engineering 1, The higher Technical School of Niš, 2004.			
2. Nikolic, A., Fundamentals of electronics, Punta, Niš, 2006.			
3. Vukcevic, B., Fundamentals of Electrical Engineering Branko Miljkovic, Niš, 2006.			
Number of active classes 90			Other forms of teaching:
Lectures: 45	Practical classes: 45	Research work:	
Teaching methods			
Combination of interactive approach with practical problems solving.			
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	30
practical training	20	oral exam	
colloquium(s)/seminar papers	20+20		
Sum	70	Sum	30