Study program: Modern computer technologies

Course title: Electrical Engineering 1

Professor/assistant: Dejan Blagojevic / Natasa Bogdanovic

Type of course: compulsory

ECTS credits: 7

Pre-requisites: none

Aims of the course:
• meet the basic laws, principles and terminology in the field of electrostatics and the time constant currents,
• learn basic size calculation in electrostatics,
• learn basic budget size in the car DC.

Learning outcomes:
Student is able to:
• 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
Theoretical part
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, simple DC circuits, complex DC circuits and methods for solving them. Terms adjustments.
Practical part:
Practical exercises follow the theory; laboratory exercises are practical assessment of the basic laws related to the eletrostatic field and deal with analysis and setting of DC circuits (Ohm's law, Kirchhoff laws, Thevenen theorem).

Literature
Mitic, D., Vukcevic, B., Fundamentals of Electrical Engineering 1, The higher Technical School of Niš, 2004.
Nikolic, A., Fundamentals of electronics, Punta, Niš, 2006.
Vukcevic, B., Fundamentals of Electrical Engineering Branko Miljkovic, Niš, 2006.

Number of active classes			Other forms of teaching:
Lectures: 30	Practical classes: 30	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	**70**
practical training	**20**	oral exam	
colloquium(s)/seminar papers	**30**		70
Sum		**Sum**	