

Name of the subject: Electricity I.	NEPTUN code: KHTVT11ANE	Weekly hours: 3 3 lec+ 0gs+ 0 lab	Credit: 4 Req: Examination
Subject leader: Dr. Ervin RÁCZ	docent	Prerequisites:	
Description of the subject:			
<p>Summary of the basic concepts of vector algebra. Scalar and vector quantity. The law of electrostatic field. Coulomb's law and superposition. The potential. Capacity. Energy equation and the dielectric constants. The laws of DC network analysis. Kirchhoff equations and systems of analysis. Loop current method. Nodal potential method. The theorems of Thevenin and Norton. Principle of reciprocity. Dividers. Star-Delta transformation.</p> <p>Magnetic field of the electric current. Fundamental phenomena. Calculation of the magnetic field intensity. Biot-Savart law. Calculation of the induced voltage. Magnetic energy. The whole system of The Maxwell equations.</p> <p>A description of the AC sine wave time domain. Introduction of complex numbers. Simple calculation of alternating current networks. Power calculation. Mean value.</p>			
Literature:			
Basic Electricity: Complete Course, Volumes 1-5 in 1 [Paperback]			
<u>Van Valkenburgh</u> (Author), <u>Nooger</u> (Author), <u>Neville</u> (Author)			