

**Information sheet for the course**  
**Fundamentals of Electrical Engineering and Electronics**

<b>University:</b> <i>Alexander Dubček University of Trenčín</i>	
<b>Faculty:</b> <i>Faculty of special technology</i>	
<b>Course unit code:</b> <i>SaOA/B/1-81/d</i>	<b>Course unit title:</b> <i>Fundamentals of Electrical Engineering and Electronics</i>
<b>Type of course unit:</b> <i>compulsory</i>	
<b>Planned types, learning activities and teaching methods:</b> <i>2 hours of lectures per week, 2 hour of practice per week and one hour of laboratory exercises per week</i>	
<b>Number of credits:</b> 5	
<b>Recommended semester:</b> <i>3<sup>rd</sup> semester in the 2<sup>st</sup> year (full-time)</i> <i>5<sup>th</sup> semester in the 3<sup>rd</sup> year (part-time)</i>	
<b>Degree of study:</b> <i>I. (bachelor)</i>	
<b>Course prerequisites:</b> <i>SaOA /B/4-07/d Physics I., SaOA /B/4-08/d Physics II.</i>	
<b>Assessment methods:</b> <i>Continuous assessment: 100% attendance and active creative work on laboratory exercises, the attainment of goals laboratory practice, mastery of technical terminology, min. 60% attendance at lectures. Twice during the semester written test. The ongoing evaluation is necessary to obtain min. 30 points. Final assessment: test in a written test with emphasis on theoretical knowledge of the subject and the support of the oral response. Out of the 30 points, it is required to obtain for Evaluation history: (E) - 20 points, (D) - 22 points (C) - 24 points (B) - 26 points (A) - 28 points.</i>	
<b>Learning outcomes of the course unit:</b> <i>The student has a cross-cutting knowledge of the fundamental principles of electrical engineering and electronics, with a focus on the basic concepts, quantities and units of electrical engineering, electronic and electronic parts specification from the viewpoint of their applications in electrical devices, mobile technology, alternate and one-way.</i>	
<b>Course contents:</b> <i>The effects of electric current on the human body, protection against dangerous effects of electrical current on the human body and the health and safety at work on the electrical equipment. The definition of an electric field, the potential tension. Ohm's law, Kirchoff law. Harmonic variables. Dynamic going on in electrical devices. Self and mutual inductance. Electrical machinery, characteristics and distribution. Transformers. Asynchronous machines. Synchronous machines. Commutator machines. DC machines. Operating conditions the electric motor. Semiconductor elements, transistors, the basic engagement characteristics. Optoelectronic elements, characteristics and basic applications. Integrated electronic circuits.</i>	
<b>Recommended of required reading:</b> <i>HRAŠKO, P., PUZIAK, I.: Elektrotechnika, Alfa-pres 1987.</i> <i>MAĀATKO, J.: Elektronika. IDEA SERVIS, Praha 2002.</i> <i>KOHLMANN, Ā.: Matematika ve sdelovací technice, SNTL Praha, 2002.</i> <i>HASSDENTEUFEL, J.; Elektrotechnické materiály; SNTL Praha 1978. LIGHTNING – služby elektro 2011.</i> <i>HÜTTNER, L., KLUG, L.: Elektrické stroje, Žilina: Žilinská univerzita, 2004. 335 s. ISBN 80-8070-229-2</i> <i>MICHALÍK, J.: Elektrotechnika, MARKAB spol. s.r.o. Žilina, ISBN 978-80-89072</i> <i>MERAVÝ, J.: Elektrotechnická spôsobilosť pre elektrikárov, vydavateľstvo Ing. Ján Meravý – Lightning 2011.</i>	
<b>Language:</b> <i>Slovak</i>	
<b>Remarks:</b> <i>The subject is provided in the winter semester of the second year of full-time study. Subject is required.</i>	
<b>Evaluation history:</b>	

<i>Total number of students being evaluated 205 divided by notes</i>					
A	B	C	D	E	FX
22.93	18.54	19.51	23.41	15.61	0,00
<b>Lecturers:</b> <i>doc. Ing. Vladimír Áč, CSc. – lecturer, doc. Ing. Peter Lipták, CSc. – lecturer PaedDr. Erika Hujová, PhD. - instructor</i>					
<b>Last modification:</b> <i>15.4.2014</i>					
<b>Supervisor:</b> <i>Assoc.prof. Alexej Chovanec, PhD., guarantee of the study program “Vehicles Maintenance and Repair”</i>					