

**Faculty of Mechanical Engineering / ROAD TRAFFIC / ELECTRICAL ENGINEERING**

<b>Course:</b>	ELECTRICAL ENGINEERING			
<b>Course ID</b>	<b>Course status</b>	<b>Semester</b>	<b>ECTS credits</b>	<b>Lessons</b> (Lessons+Exercises+Laboratory)
917	Mandatory	3	5	2+2+0
<b>Programs</b>	ROAD TRAFFIC			
<b>Prerequisites</b>				
<b>Aims</b>				
<b>Learning outcomes</b>	After passing the exam in this subject, the student will be able to: 1. Define the concept of electrostatic field and the basic quantities that describe it. 2. Define the concept of a linear electrical circuit and the basic principles that describe it (Ohms law, Joules law, Kirchhoffs laws) and solve a direct current circuit. 3. Describe phenomena in the magnetic field and their applications. 4. Describe the behavior of resistors, inductors, and capacitors in an alternating current circuit. 5. Explain the operating principle and basic characteristics of transformers, asynchronous machines, and direct current machines. 6. Explain the operation of basic electronic circuits. 7. Solve standardized problems and analyze the obtained solutions.			
<b>Lecturer / Teaching assistant</b>				
<b>Methodology</b>				
<b>Plan and program of work</b>				
Preparing week	Preparation and registration of the semester			
I week lectures				
I week exercises				
II week lectures				
II week exercises				
III week lectures				
III week exercises				
IV week lectures				
IV week exercises				
V week lectures				
V week exercises				
VI week lectures				
VI week exercises				
VII week lectures				
VII week exercises				
VIII week lectures				
VIII week exercises				
IX week lectures				
IX week exercises				
X week lectures				
X week exercises				
XI week lectures				
XI week exercises				
XII week lectures				
XII week exercises				
XIII week lectures				
XIII week exercises				

XIV week lectures						
XIV week exercises						
XV week lectures						
XV week exercises						
<b>Student workload</b>						
<b>Per week</b>		<b>Per semester</b>				
<b>5 credits x 40/30=6 hours and 40 minuts</b> 2 sat(a) theoretical classes 0 sat(a) practical classes 2 excercises <b>2 hour(s) i 40 minuts</b> of independent work, including consultations		Classes and final exam: <b>6 hour(s) i 40 minuts x 16 =106 hour(s) i 40 minuts</b> Necessary preparation before the beginning of the semester (administration, registration, certification): <b>6 hour(s) i 40 minuts x 2 =13 hour(s) i 20 minuts</b> Total workload for the subject: <b>5 x 30=150 hour(s)</b> Additional work for exam preparation in the preparing exam period, including taking the remedial exam from 0 to 30 hours (remaining time from the first two items to the total load for the item) <b>30 hour(s) i 0 minuts</b> Workload structure: <b>106 hour(s) i 40 minuts (cources), 13 hour(s) i 20 minuts (preparation), 30 hour(s) i 0 minuts (additional work)</b>				
<b>Student obligations</b>						
<b>Consultations</b>						
<b>Literature</b>						
<b>Examination methods</b>						
<b>Special remarks</b>						
<b>Comment</b>						
<b>Grade:</b>	F	E	D	C	B	A
<b>Number of points</b>	less than 50 points	greater than or equal to 50 points and less than 60 points	greater than or equal to 60 points and less than 70 points	greater than or equal to 70 points and less than 80 points	greater than or equal to 80 points and less than 90 points	greater than or equal to 90 points