

Course Unit Descriptor

Study Programme: Power, Electronic and Telecommunication Engineering (Power Engineering - Power Electronics and Electric Machines)			
Course Unit Title: Power Converters			
Course Unit Code: E133			
Name of Lecturer(s): Veran Vasić			
Type and Level of Studies: Bachelor level			
Course Status (compulsory/elective): compulsory			
Semester (winter/summer): winter			
Language of instruction: english			
Mode of course unit delivery (face-to-face/distance learning): face-to-face			
Number of ECTS Allocated: 7			
Prerequisites: none			
Course Aims: Acquiring the basic knowledge in the field of electromechanical energy conversion, electric machines, power electronic devices and electrical drives.			
Learning Outcomes: - understanding the basic principles of electromechanical conversion of energy - understanding the basic features and ways of operation of rotating machines - understanding the basic features and ways of operation of static electric machines – transformers - understanding the basic features and ways of operation of the power electronic devices and their application - understanding the basics of electrical drives			
Syllabus: The basic principles of electromechanical energy conversion. Power balance of electric machines. Types of rotating machines. Alternating machines. Tesla’s rotating field. Asynchronous machines. Synchronous machines. Direct current machines. Static electric machines – transformers. Other electric machines. Little and micro-motors. Power electronic devices. Fundamentals of electrical drives.			
Required Reading: Relevant literature in English TBD			
Weekly Contact Hours: 5	Lectures: 3	Practical work: 2	
Teaching Methods: A course is taught through lectures and practice. In lectures, modern illustrations for intuitive understanding of the taught matter are used. In order to fully master the course matter, students solve problems in auditory practice, which accompanies lectures, thus enabling students to independently solve problems from the engineering practice. A part of the practice is carried out in the laboratory.			
Knowledge Assessment (maximum of 100 points): 100			
Pre-exam obligations	points	Final exam	points
Exercise attendance	5	Written part of the exam	30
Lecture attendance	5		
Complex exercises	20		
Colloquim exam	20		
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The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.