

Specification for the book of courses

Study program		Electrical Engineering and Computer Science		
Module				
Type and level of studies		Doctoral studies		
The name of the course		Scientific and Research Work 1		
Lecturer (for lectures)				
Lecturer/associate (for exercises)				
Lecturer/associate (for OFE)				
Number of ECTS	30	Course status (obligatory/elective)	Obligatory	
Prerequisites				
Course objectives	Application of basic, theoretical methodological, scientific-professional and expert-applied knowledge and methods for solving concrete problems. The student studies the problem, its structure and complexity, and on the basis of conducted analyzes, concludes the possible ways of solving it. By studying literature, students are introduced to methods that are designed for solving similar tasks and engineering practice in their solving.			
Course outcomes	Training students to independently apply previously acquired knowledge from different areas they have studied to examine the structure of the given problem and its systemic analysis in order to draw conclusions about possible directions of its resolution. Practical application of acquired knowledge among students develops the ability to see the place and role of engineers in the selected area, the need for cooperation with other professions and teamwork.			
Course outline				
Theoretical teaching	Formed individually in accordance with the needs of the scientific or seminar work, its complexity and structure. Lecturer assigns the specific task to a student. Student studies professional and scientific papers dealing with similar topics, makes research in order to find solutions for the assigned task, or to carry out certain experiments in the laboratory. The work also includes computer simulations, statistical analyzes, and participation in writing research papers in the specific scientific field.			
Practical teaching (exercises, OFE, study and research)	The experimental part of the work can be carried out in the laboratories at the Faculty.			
Textbooks/references				
	1			
	2			
	3			
	4			
	5			
Number of classes of active education per week during semester/trimester/year				
Lectures	Exercises	OFE	Study and research work	Other classes
			11	
Teaching methods	The lecturer compiles the task and delivers it to the student. The student is obliged to prepare a seminar paper within the given topic using the proposed literature. During the course of the work, the lecturer can give additional instructions to the student, refer to certain literature, and further direct it in order to produce quality seminar work. Within the framework of scientific research, the student conducts consultations with the lecturer and, if necessary, with other lecturers dealing with issues related to the topic of work itself. Within the given topic, the student, if necessary, performs certain measurements, tests and other research or statistical processing of data.			
Grade (maximum number of points 100)				
Pre-exam duties	Points	Final exam	Points	
Activity during lectures		Written exam		
Exercises		Oral exam	50	
Colloquia				
Projects	50			