

[illegible]

		1	Calculation of cable tension strengths
		2	Calculation of cable overhangs for specific conditions
		3	Specification of the minimum installation height for wires
		4	Option for installing the wires - regulations
		5	Matching types of insulators
		6	Specification of the pole profile and the parameters for the wires
		7	Assembly instructions and charts
			Laboratory classes
		1	Study and analysis of the power quality parameters
		2	Identifying faults in cable lines
		3	Study of current and voltage asymmetry in power systems
		4	Study of ground faults in medium-voltage networks
		5	Study of voltage drops and power losses in power systems
		6	Reactive power compensation
Teaching methods site classes)	(on-	L	lecture with multimedia presentation
	P		practical project
	LC		experiments
		-	
Teaching methods (online classes)		L	lecture with multimedia presentation
		-	
		-	
		-	
Forms of crediting		L	written exam: test
		P	project realization and project defense
	LC		completion of exercise, reports
		-	
Conditions of crediting		L	more than 51% of the possible points
		P	correct project design and correct answers to the questions asked
	LC		correct completion of exercises and reports of completed exercises
		-	

Outcome symbols	Expected learning outcomes	Expected learning outcomes defined for the field of study		
		Knowlegde	Skills	Social competence
Knowledge: the student knows and understands				
E1	construction and principles of operation of advanced and complex power systems			
E2	advanced and modern technical solutions for the construction of distribution and transmission power systems			
E3	fundamental phenomena in distribution and transmission systems			
Skills: the student can				
E4	apply the principles of matching electrical equipment in distribution and transmission systems			
E5	design advanced electrical power systems using standards and catalogues to correctly match the equipment			
E6	prepare project documentation for a part of the power distribution and transmission system			
E7	perform measurement analyses of parameters characterizing the operation of the power system, interpret the results and formulate conclusions			
Social competence: the student is ready to				
E8	work in a team and prepare and implement a work schedule to achieve the required goal			

Outcome symbols	Methods of verification of learning outcomes	Course form subject to verification
E1	Test exam	L
E2	Test exam	L
E3	Test exam	L
E4	Project realization	P
E5	Project realization	P
E6	Project realization	P
E7	Laboratory report realization	LC
E8	Class work	LC
Basic references	1	Schavemaker P., Sluis L., Electrical Power System Essentials, John Wiley and Sons, Second Edition, 2000.
	2	Grainger J., Power System Analysis (Si), McGraw-Hill Education, 2016.
	3	Dugan R.C., et all, Electrical Power Systems Quality, Thrid Edition, 2000.
	4	Kiessling F., et all, Overhead Power Lines: Planning, Design, Construction, Springer, 2003.
	5	Collective study, Electric Power and Energy Distribution Systems: Models, Methods, and Applications, John Wiley
Supplementary references	1	Wang X.F., et all, Modern Power Systems Analysis, Springer, 2008.
	2	Krischen D.S., Fundamental Concepts and the Transition to Sustainability, John Wiley and Sons, 2024.
	3	Collective study, Power quality in Moder Power Systems, Elsevier, 2020.
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