ABSTRACT OF THE DISCIPLINE

Metric Name	Characteristic
Full name of the discipline	Energy Storage Systems and Maneuvering at the Power Grid
Teaching staff	as. Andrii Ivakhnov
Speciality	141 "Electric power engineering, electrical engineering and electromechanics"
Educational program	Electricity industry
Number of hours	120
Credit ECTS	4
Description	The goal. Formation of the idea of physical processes occuring in electrical systems when changing the modes of their operation; formation of the ability to mathematically describe and analyze these processes; formation of skills of using computer technology for modeling and detailed study of short-circuit currents. Learning outcomes. − Know and use methods of fundamental sciences to solve general engineering and professional problems − Determine the principles of construction and normal functioning of elements of electric power, electrotechnical electromechanical complexes and systems − Evaluate the parameters of the operation of electrotechnical, electric and electromechanical equipment and the relevant complexes and systems and develop measures to improve their energy efficiency and reliability − Analyze processes in electrical, electrical and electromechanical equipment and related complexes and systems − Collect and analyze information about abnormal modes and emergencies in the electrical industry to prevent their recurrence in the future − Possess methods of synthesis of electric power, electrotechnical and electromechanical installations and systems with specified indicators − Evaluate the reliability of the operation of electric power, electrotechnical and electromechanical systems. Competences: − FC 3 Ability to use basic knowledge in general physics, higher mathematics, theoretical bases of electrical engineering and electrical materials to solve practical problems in the field of electric power engineering, electrical engineering and electromechanics. − FC 6 Ability to use knowledge on the basics of electromechanics: the theory of electric machines, devices and automated electric drive to solve practical problems in the field of electricity, electrical engineering and electromechanics. − FC 8 Ability to use modern methods of calculation, modeling and analysis of modes of operation of electric power, electrotechnical and electromechanical equipment and design of electric and electromechanical systems. − FC 12 Ability to study and analyze scientific and technical information in the field of electricity, electrical engineering and electromechanics.

	– FC 13 Ability to perform experimental (model) studies of modes of operation of electric power, electrical and electromechanical equipment. – FKS 16 Obtaining and using professional knowledge and understands related to the processes of transmission, distribution of electricity and electricity in compliance with the specified parameters of technological processes and the quality of electricity. – Results: – NRF 12To know and use methods of fundamental sciences to solve general engineering and professional problems – NRWS 16 Define principles of construction and normal functioning of elements of electric power, electrotechnical electromechanical complexes and systems – PRN-18 To consider the parameters of operation of electrical, electric and electromechanical equipment and relevant complexes and systems and to develop measures to improve their energy efficiency and reliability – PRN-20 Analyze processes in electric power, electrotechnical and electromechanical equipment and related complexes and systems – PNR-21 Collect and analyze information about abnormal modes and emergencies in the electrical industry to prevent their recurrence in the future – RNN-22Seen methods of synthesis of electric power, electrotechnical and electromechanical installations and systems with specified parameters – PRN-24Atrical, electrotechnical and electromechanical systems is to be reliable. Teaching methods. Problematic method and reproductive teaching methods are used with reliance on active teaching methods. The wording of the problem by the teacher and its gradual solution are envisaged.
Type of discipline	Professional (profile)
Final control	Exam Individual task – abstract