

**Code and title of speciality (programme subject area):** 141 “Electrical energetics, electrical engineering and electromechanics”

**Code and title of the field of study:** 14 “Electrical engineering”

**Qualification:** bachelor in speciality “Electrical energetics, electrical engineering and electromechanics”

**Number of credits:** 240 ECTS credits

**Level of higher education:** the first (bachelor) level corresponds to the sixth qualification level of the National Qualifications Framework in Ukraine

**Requirements to the previous education level:** a person has the right to acquire the bachelor level in case he/she has obtained general secondary education or education according to the educational programme of junior bachelor in relevant speciality. Given that the previous level has been obtained in the other country, nostrification is required.

**Qualification requirements:** higher education document is issued to a person who has successfully completed the educational programme and has been attested. Final attestation is carried out by evaluating the degree of maturity of competences. The form of attestation is state examination in educational and professional programme.

**Programme learning outcomes:** to use conceptual knowledge, including knowledge of modern achievements for solving complex unforeseen problems of the industry; to use theory, principles, methods and concepts of general engineering sciences in education and professional activity; to collect and interpret information and choose methods and tools to solve professional problems; to apply innovative approaches to solve professional problems; to inform specialists and non-specialists of information, ideas, problems, solutions and own experience in the field of professional activity; to manage complex actions or projects; to form a communication strategy; to use a foreign language for professional purposes; to be responsible for professional development of individuals and / or groups; to be responsible for decision-making under unpredictable conditions; to study with a high level of autonomy.

Technological professional activity: to identify principles of construction and normal operation of components of electrical energy, electrical engineering and electromechanical components; to identify the principles of construction and operation of elements of control and automation of electrical energy, electrical engineering and electromechanical systems; to evaluate operation of electrical energy system and develop measures to improve its energy efficiency; to use computer-aided design (CAD), computer-aided manufacturing (CAM) and computer-aided evaluations (CAE) to calculate and analyse static and dynamic stability of electromechanical and energy systems; to analyse processes in electrical energy, electrical engineering and electromechanical equipment; to collect information on major accidents in the electrical energy industry to prevent their recurrence in future; to combine traditional and alternative energy to improve reliability and efficiency of energy system; to assess risks while working on electrical installations; to assess reliability of electrical installations of energy systems and electrical energy consumers under external influences and electromagnetic interference.

Organizational professional activity: to comply with the requirements of regulations on labour and health safety and sanitation; to follow patterns of action, strategy and tactics of solving professional tasks by experienced employees in the electric energy sector; to perform maintenance tasks of electrical equipment on electrical stations, substations, systems and networks according to relevant regulations and practical skills; to improve skills of working with PC while performing calculations of established modes of work of electromechanical systems and electrical networks of low and high voltage; to combine methods of theoretical and empirical research to find ways to reduce electricity losses during its transportation and distribution in modern energy systems; to invent new ways to solve problems of economic transformation, distribution and transmission of electricity in the modern world.

Management professional activity: to plan components of technological and organizational activities; to monitor components of technological and organizational activities; to improve components of technological and organizational activities.

**Employment opportunities:** Bachelor in speciality 141 “Electrical energetics, electrical engineering and electromechanics” may hold positions in companies, small enterprises and institutes: technical engineer; engineer, electronic mechanical technician, electrical engineer; electronic mechanical engineer.

**Further study prospects:** Bachelor in speciality 141 “Electrical energetics, electrical engineering and electromechanics” may continue study for obtaining the educational qualification level of master in 14 “Electrical Engineering”, 17 “Electronics and Telecommunications”.

**Department graduating a student with degree:** Department of Electrical Engineering  
Institute/Faculty: Faculty of Engineering

**Educational program supervisor:** Associate Professor, Ph.D. in Technology  
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