

Educational program Profile

| General Information | |
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| The official name of educational program | Electromechanical automation systems and electric drive |
| Specialty | 141 Power Engineering, Electrical engineering and Electromechanics |
| Branch of knowledge | 14. Electrical Engineering |
| Higher education level and qualification name | Master's degree, Master in Power Engineering, Electrical engineering and Electromechanics |
| Type of diploma and volume of educational program | Master's degree, single, 90 ECTS credits, training period 1 year 4 months |
| Availability of accreditation | Ministry of Education and Science of Ukraine, certificate of accreditation УД № 21002010, Validity period to 01.07.2023 |
| Cycle/Level | Second (master) level NRC of Ukraine – 8 level FQ-EHEA – The second cycle EQF-LLL – 7 level |
| Requirements to the level of education of entrant | First (Bachelor) level |
| Language(s) of teaching | Ukrainian |
| Validity of educational program | 5 Years |
| Aim of educational Program | |
| | The purpose of the program-formation of applicants for higher education aggregate of knowledge, skills and abilities for use in professional activities in the field of electrical energy, electrical and electromechanical systems and complexes through theoretical and practical training |
| Characteristics of educational Program | |
| Domain | <p>Object: Production, management, educational and scientific institutions, institutions, organizations, enterprises, companies in the field of electricity, electrical engineering and electromechanics.</p> <p>Purpose of training: training of specialists in electromechanical systems capable of: construction, design, operate, organize installation, adjustment and repair, create new equipment and introduce the latest technologies, conduct scientific research and conduct teaching activities.</p> <p>Theoretical subject area content: Fundamental knowledge of the theory of electrical engineering, modeling and optimization of power, electrical and electromechanical systems and complexes, their use for innovation and research of Electric Machines, electric drives, automation systems.</p> <p>Methods, techniques and technologies. The applicant must master the methods and means of research processes in equipment in electrical and electromechanical systems and complexes, automated construction, design</p> |

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| | and production. Tools and equipment: tools, devices, systems, design technologies, operation, control, monitoring. |
| Orientation of educational Program | Educational-professional |
| Main focus of educational program and specialization | Special education and professional training in the field of electromechanical systems of automation and electric drive Keywords: -Electromechanical automation systems, electric drive, design, digital control systems, automation, technological processes, information technologies, diagnostic complexes, automated design. |
| Program features | Requires special practice of operation and assembly -electromechanical automation system and electric drive |
| Graduates ' suitability for employment and further education | |
| Suitability for employment | 2143.2 Manager of the joint control system of power 2143.2 An engineer with an emergency automatic operation 2143.2 Relay Protection engineer and Electroautomatics 2143.2 Engineer of dispatch and technological control equipment 2143.2 Engineer Service Lines Energy Enterprise 2143.2 Engineer of the substations service 2143.2 Distributive Network engineer 2143.2 Energy Engineer 2143.2 Design Engineer (Electrical engineering) 2145.2 Engineer on the diagnosis of technical condition of wheeled Vehicles (machine-tractor fleet, road-building machines on wheeled chassis and motorcycles) 2145.2 Instrument Engineer 2145.2 Engineer with equipment Complectation 2145.2 Engineer on mechanization and automation of production processes 2145.2 Engineer with mechanization labor-intensive processes 2145.2 Locomotive receiving engineer (wagons) at depot 2145.2 Design Engineer (mechanics) 2145.2 Mechanic Engineer Group 2145.2 Engineer-Technologist (mechanic) 2144.2 Design Engineer (Electronics) 2144.2 Electronics Engineer 2149.2 System Analyst (except computers) 2149.2 Dispatcher Service Control Manager 2149.2 Dispatcher of the Wagon Fleet regulation 2149.2 Traffic Service Manager 2149.2 Track Manager 2149.2 Manager-Instructor Traffic service 2149.2 Expert in energy saving and energy efficiency |

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| | 2149.2 Engineer of the setup and testing 2149.2 Engineer of Objective control 2149.2 Engineer of exploitation and repair 2149.2 Engineer on the design of mechanized developments 2149.2 Maintenance Engineer 2149.2 Engineer of repair 2149.2 Engineer on settlements and regimes 2149.2 Transport Engineer 2149.2 Engineer for the introduction of new technology and technology 2149.2 Research Engineer 2149.2 Design Engineer 2149.2 Controller Engineer 2149.2 Laboratory Engineer 2149.2 Technology Engineer |
| Further training | Degree of Doctor of Philosophy |
| Teaching and evaluation | |
| Teaching and Learning | Training, self-learning, problem-oriented studies, remote |
| Evaluation | Written examinations, protection of practical works, protection of coursework projects and works, test tasks, protection of Master's work. |
| Program Learning Outcomes | |
| Programmatic learning outcomes defined by the standard | <ul style="list-style-type: none"> – Find options to improve energy efficiency and reliability of electrical and electromechanical equipment and appropriate systems and systems. – Reproduce processes in the electrical energy, electrical and electromechanical systems in their computer modeling. – To master new versions or new software designed for computer modeling of objects and processes in electrical, electrical and electromechanical systems. – Outline the plan of measures to improve reliability, operation safety and continuation of resource of electric energy, electrotechnical and electromechanical equipment and corresponding complexes and systems. – Analyze the processes in the electric power, electrotechnical and electromechanical equipment and corresponding complexes and systems. – To reconstruct existing electrical networks, stations and substations, electrical and electromechanical complexes and systems to improve their reliability, operation efficiency and resource continuation. – Possess methods of mathematical and physical modelling of objects and processes in electrical energy, electrical and electromechanical systems. – Take into account the legal and economic aspects of research and innovation activity. – Search for resource support sources for additional education, scientific and innovative activities. – To present research materials at international scientific conferences and seminars on modern problems in the field of electric power, electrical |

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| | <p>engineering and electromechanics.</p> <ul style="list-style-type: none"> – To justify the choice of direction and research methods taking into account modern problems in the field of electric power, electrical engineering and electromechanics. – To plan and perform research and innovative projects in the field of electricity, electrical engineering and electromechanics. – To participate in compatible researches and developments with foreign scientists and experts in the field of power engineering, Electrotechnical, Electromechanics. – To adhere to the principles and directions of Ukraine's energy security strategy. – To combine different forms of research work and practical activity in order to overcome the gap between theory and practice, scientific achievements and their practical implementation. – To adhere to the principles and rules of academic integrity in educational and scientific activities. – To demonstrate understanding of regulatory and legal acts, norms, rules and standards in the field of electricity, electrical engineering and electromechanics. – Freely communicate orally and writing to the State and foreign languages of modern scientific and technical problems of power, electrical engineering and electromechanics. – Identify problems and identify restrictions related to environmental issues, sustainable development, human health and safety and risk assessments in the field of electricity, electrical engineering, and electromechanics. – Identify key factors and technical problems that may interfere with the introduction of modern methods of power management, electrotechnical and electromechanical systems. |
| <p>Program learning outcomes, defined by a higher educational institution</p> | <ul style="list-style-type: none"> – Able to manage strategic development of the team in the process of professional activity in the field of electric power, electrical engineering and electromechanics; – Be able to implement the organization of works related to the assessment of technical condition of electrical systems, environmental protection and optimization of electromechanical systems for automation and electric drive in conditions of incomplete information and contradictory requirements; – Be able to develop their own technical projects by creative application of existing and generating new ideas; – Be able to assess the level of automation of electrical systems and increase their characteristics; – To participate in the management of engineering and technical activities and/or technical projects. |
| <p>Resource support for implementation of the program</p> | |
| <p>Staffing support</p> | <p>Over 70% of scientific and pedagogical staff involved to teaching vocational-oriented disciplines, have scientific degrees in the specialty</p> |

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| Material and technical support | The use of modern equipment of leading electromechanical companies, in particular Schneider Elecris |
| Information and educational and methodological support | Use of the distance learning system and author's development of teaching staff |
| Academic Mobility | |
| National Credit Mobility | On the basis of bilateral agreements between the institution and technical Universities of Ukraine |
| International Credit Mobility | |
| Training of foreign higher education applicants | |