Overhead Power Lines Mechanical Calculations Fundamentals

Credit module " Overhead Power Lines Mechanical Calculations Fundamentals" is part of the cycle of professional and practical training of bachelors.

The purpose of the credit module " Overhead Power Lines Mechanical Calculations Fundamentals" is to form a system of characteristics that reflect the basic competencies of the graduate.

An electrical engineer specializing in the transmission and distribution of electricity must be able to perform calculations of wires and cables, supports and foundations of overhead power lines. Necessary knowledge of all physical processes in power lines in real operating conditions, under the influence of climatic, meteorological and other factors on the design of lines. During the course the student acquire stable knowledge and skills, the amount of which must be sufficient to solve all design problems that arise in the design and construction of overhead power lines.

The objectives of the discipline " Overhead Power Lines Mechanical Calculations Fundamentals" is a deep mastery of the physics of processes in the structural elements of overhead power lines due to changes in climatic loads and influences. A particularly important group of tasks in the study of this discipline is the calculation of climatic modes of wires and cables of the overhead line, loads on the structural elements of supports, etc.

Electric Systems Modes Regulation. Part 2. Theory of Long-Distance AC Power Transmission

The task of credit module "Electric Systems Modes Regulation. Part 2. Theory of Long-Distance AC Power Transmission" is to expand and consolidate students' theoretical knowledge gained in the discipline "Electrical Systems and Networks", practice of skills; development of practical skills in the design and operation of modern UHV Long-Distance AC Power Transmission; assessment of their normal and post-emergency operating modes, selection of means and methods of optimal control of UHV Long-Distance AC Power Transmission operation modes.

Technological and practical direction of the material of credit module "Electric Systems Modes Regulation. Part 2. Theory of Long-Distance AC Power Transmission" is focused on instilling in students' knowledge of modern means of voltage regulation in 110-750 kV electrical networks, effective mathematical methods of engineering calculations of characteristic modes of operation of ultrahigh voltage power lines and ways to control them, students acquire skills of an engineer. , operator, designer and designer in the field of UHV, which fully meet the production functions of an electrical engineer, able to make independent creative decisions in the design and operation of UHV electrical networks.

Reliability of Power Systems

Credit module "Reliability of Power Systems" is part of the cycle of professional and practical training of bachelors.

The main purpose of the discipline "Reliability of Power Systems" is to form a system of characteristics that reflect the basic competencies of the graduate.

An electrical engineer specializing in the transmission and distribution of electricity must master the application of the basic provisions of the theory of reliability of complex technical systems in solving problems of analysis of reliability and synthesis of rational solutions to improve the reliability of electrical systems and networks.

The main task of the discipline "Reliability of Power Systems" is to develop and improve methods for ensuring the reliable operation of electrical systems and networks, which are provided through a system of knowledge, skills and experience