ENERGY EFFICIENT TECHNOLOGIES IN ENERGY AND INDUSTRY

COURSE SYLLABUS ABSTRACT

1-43 80 01 "Power industry and electrical engineering"

	STUDY MODE	
	full-time	part-time
Year	1	1
Semester	2	2
Lectures, hours	24	6
Pass/fail, semester	2	2
Contact hours	24	6
Independent study, hours	66	84
Total course duration in hours / credit units	90/3	

1. Course outline

The course is aimed at the formation of undergraduates' theoretical knowledge on the achievements of science and advanced technologies in the field of energy systems and complexes, in industrial production, construction, housing and communal services, the ability to develop plans and programs for organizing innovative activities and the ability to perform a feasibility study of innovative projects.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know:

- new trends in the development of world energy;
- methods of efficient energy supply of industrial enterprises;
- theoretical foundations of production, transmission and distribution of electrical energy;
- effective methods of managing technological processes in the electric power industry;
- basic methods for calculating power supply schemes for industrial and transport installations;
- innovative technical solutions in power supply systems of industrial enterprises;

be able to:

- use in practice modern methods of management and energy supply;
- introduce modern technologies for the production, transmission and distribution of electrical energy;
- evaluate the effectiveness of the technologies used;
- apply computer technologies to automate the control of technological processes in the energy sector and power supply of industrial enterprises;
- use modern methods of accounting and measurement of active and reactive energy;
- build automated power supply systems;

possess:

- methods of economic analysis to assess the effectiveness of technological processes, innovation and technological risks in the implementation of new equipment and technologies;
- skills for evaluating the effective modes of power and process equipment.

3. Competencies

SC-5. To be able to develop and apply in practice progressive and promising technologies aimed at improving the efficiency of generation and use of heat and electricity in the industrial sector.

4. Requirements and forms of midcourse evaluation and summative assessment

To assess the quality of assimilation of educational material by students, including the acquired competencies, a current certification is carried out in the form of a credit for the academic discipline. The results of passing the tests are evaluated with the marks “passed” or “not passed”.