

INNOVATIVE TECHNICAL SOLUTIONS IN POWER GENERATION, TRANSMISSION AND DISTRIBUTION SYSTEMS

COURSE SYLLABUS ABSTRACT

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

	STUDY MODE	
	full-time	part-time
Year	1	1
Semester	1	2
Lectures, hours	36	8
Laboratory classes, hours	36	8
Exam, semester	1	2
Contact hours	72	16
Independent study, hours	128	184
Total course duration in hours / credit units	200/6	

1. Course outline

The course studies the problems of rational use of innovative technologies in the energy sector and is aimed at the formation of academic competencies necessary for the implementation of research work and innovative activities in the field of energy.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know:

- innovative technologies and components of an intelligent electric power system;
- innovative developments of electrical equipment of switchgears of power plants and substations;
- innovative technical solutions in power supply systems of industrial enterprises;

be able to:

- determine the ways and mechanisms for the transition of existing electrical networks to active-adaptive ones;
- choose technologies, means and measures aimed at reducing electricity losses, as well as the procedure for their implementation;
- build automated power supply systems;

possess:

- methods of organizing an intelligent electric power system, including with an active-adaptive network.

3. Competencies

SC-2. Own innovative technical solutions in the field of generating electrical and thermal energy at power plants, know innovative designs of electrical equipment of switchgears and power lines, know innovative technical solutions in the field of power supply, know innovative solutions in the field of relay protection and system automation, control circuits, measurement and accounting electrical energy.

4. Requirements and forms of midcourse evaluation and summative assessment

To assess the quality of assimilation of educational material by students, including acquired competencies, current certification is carried out in the form of an exam in the academic discipline.

Intermediate control of progress is aimed at ensuring maximum efficiency of the educational process, increasing motivation for learning; provides for the assessment of the performance and defense of laboratory work and individual assignments.