

**«AUTOMATATION OF TYPICAL TECHNOLOGICAL
INSTALLATIONS AND COMPLEXES»
ANNOTATION
TO THE CURRICULUM OF THE INSTITUTION OF HIGHER EDUCATION
Specialty: 1-53 01 05 «Automated electric drives»**

	Form of higher education		
	Full-time	Part-time	Part-time (shortened program)
Course	4	4,5	4
Semester	7, 8	8,9	7,8
Lectures, hours	46	16	10
Laboratory classes, hours	46	16	10
Practical (seminars) classes, hours	6	4	4
Course project, semester	8	9	8
Classroom examination (semester, hours)		9 (2 hours)	
Pass/fail, semester	7	8	7
Exam, semester	8	9	8
Contact hours (Classroom hours per academic discipline)	98	38	24
Independent study, hours	82	142	156
Total course duration in hours / credit units	180/5		

1. Brief content of the discipline

The purpose of the discipline is to familiarize students with the current level of development of production automation tools and robotics, with the main methods of research, construction and calculation of automatic control systems, teaching students the principles and methods of building automated control systems for technological installations and complexes based on modern technical means of automation , algorithmic and software.

2. Learning outcomes

know:

- classification of technological control objects;
- structure and functions of automated control systems
- requirements for the electric drive and automation systems of technological installations and complexes;
- modern means of automation;
- principles of optimal control of technological installations

be able to:

- as part of a group of specialists or independently develop technical documentation for the designed automated electric drive and automation system; use methods for constructing control algorithms; organize training of personnel servicing automated electric drives and automation systems in terms of technical operation and safety.

possess:

- skills in solving problems of research, calculation and construction of typical automated control systems for technological processes and their elements; skills in automation of technological installations and complexes based on optimal control algorithms and modern technical means; knowledge for the implementation of modern energy-efficient and resource-saving electric drive and automation systems; knowledge in order to be able to monitor compliance with labor protection, safety, environmental safety standards when working with electric drive and automation systems; knowledge to carry out commissioning and maintenance of electric drive and automation systems, to perform the necessary diagnostic, adjustment and repair work.

3. Formed competencies

Mastering this academic discipline should ensure the formation of the following competencies:

Codes of generated competencies	Names of competencies being formed
SK-10	To be able to design automation systems for typical technological installations and complexes

4. Requirements and forms of current and intermediate certification: defense of laboratory work, defense of a course project, pass/fail, exam.