SIMULATION IN ELECTRIC DRIVE

COURSE SYLLABUS ABSTRACT

Specialty 6-05-0713-04 Automation of technological processes and productions

Profiling Automated electric drives

	STUDY MODE		
	full-time	part-time	part-time (shortened program)
Year	2, 3	2, 3	2, 3, 4
Semester	4, 5, 6	4, 5, 6	3, 4, 5
Lectures, hours	48	12	12
Laboratory classes, hours	102	24	24
Pass/fail, semester	4, 5, 6	4, 5, 6	3, 4, 5
Contact hours	150	36	36
Independent study, hours	174	288	288
Total course duration in hours / credit units	324/9		

1. Course outline

The development and analysis of mathematical models that reflect the static and dynamic properties of electric drives, as well as methods and methods for modeling, researching and optimizing electric drive systems for industrial mechanisms using computer technology.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know:

- the basic methods for compiling a mathematical description and research of electric drive systems used in industrial and transport installations, as well as in scientific research;
- the features of modeling control systems and automated electric drives in general;
- the composition of hardware, software and linguistic support for the study of models of electric drive systems on a computer;

be able to:

- develop software models and conduct an experimental study of various modes of operation of automated electric drive systems with the help of a computer;

possess a skill:

- application of modern software to solve problems of analysis and synthesis of the dynamic properties of automatic control systems, to solve problems of studying various operating modes of automated electric drive systems.

3. Competencies

To know universal algorithmic programming languages, methods of mathematical description of automatic control systems (ACS), Matlab Simulink ACS modeling package, be able to apply modern programming technologies.

4. Requirements and forms of midcourse evaluation and summative assessment

Current monitoring of progress is aimed at ensuring maximum efficiency of the educational process, increasing motivation to study; provides for assessment of the performance and protection of laboratory work.

The form of intermediate certification is a test.