

ELECTRIC DRIVE THEORY

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	3	3	2,3
Semester	5,6	5,6	4,5
Lectures, hours	68	16	16
Practical classes (seminars), hours	32	8	8
Laboratory classes, hours	68	16	16
Course project, semester	6	6	5
Exam, semester	5,6	5,6	4,5
Contact hours	168	40	40
Independent study, hours	120	248	248
Total course duration in hours / credit units	288 / 8		

1. Course outline

The purpose of the discipline is to form students with the necessary knowledge and skills in modern electric drive and automation, which will allow them to successfully solve theoretical and practical problems in their professional activities.

2. Course learning outcomes

- know the characteristics and properties of DC electric motors, asynchronous and synchronous motors; rated operating modes and methods of selecting the power of electric motors; methods of regulating the speed and torque of the electric drive, methods and evaluation of these methods.

- be able to calculate the parameters of the mechanical part of the electric drive; make calculation schemes of single- and multi-mass models of the electric drive; determine the energy parameters of the electric drive.

- have the skill of calculating the static characteristics of AC and DC electric motors according to passport data; skills in calculating and selecting electric motors by power for basic production mechanisms.

3. Competencies

Possess the methodology for calculating the required characteristics of the electric drive, be able to choose technical means and develop an electric drive control scheme.

4. Requirements and forms of midcourse evaluation and summative assessment

Current certification - an oral exam using personal computers to complete an individual task.

Interim certification - passing testing with an assessment of the obtained practical skills on the development of design documents.