Pre-Graduation Internship

INTERNSHIP COURSE SYLLABUS
ABSTRACT

6-05-0713-04 Automation of technological processes and production

(speciality code and name)

Automated electric drives

(concentration)

	STUDY MODE		
	full-time	part-time	part-time (shortened program)
Year	4	5	4
Semester	8	10	8
Total course duration in hours / credit units	162/5		

1 Internship course outline (aims and objectives)

The objectives of the internship are:

– to consolidate theoretical knowledge acquired in specialized disciplines, as well as to master practical skills and advanced workflow management techniques necessary for the operation, repair, installation, and adjustment of electrical equipment in industrial facilities.

– to broaden their horizons in their specialty, students are also introduced to modern variable-speed electric drive and numerical control systems, robots, and robotic systems.

2 Course learning outcomes

Learning outcomes:

– consolidate theoretical knowledge gained through studying the following disciplines:

– "Electrical Engineering Materials";

– "Electric Drive Theory";

– "Components of Automatic Electric Drives";

– "Electric Drive Control Systems";

– "Automated Electric Drive of Typical Industrial Mechanisms";

– to master practical skills of:

– installation, setup, operation, and repair technologies for electric drives and electrical equipment.

– safety regulations for the operation and repair of electrical equipment and occupational health and safety measures;

– to develop practical expertise:

– product standardization and quality control.

– work in public organizations and industrial enterprises.

3 Competencies

Master the fundamentals of research, search, analyze, and synthesize information.

Apply the principles of natural science disciplines in professional activities.

Understand the fundamentals of engineering design in the relevant field.

Master engineering methods for calculating semiconductor power converters and be able to apply them.

Understand the main types of sensors and their connection diagrams to the control system, and be able to calculate and select hardware components for the information and measurement subsystem of an industrial electric drive.

Master methods for selecting electric machines for standard operating modes, be able to calculate operating characteristics, know how to troubleshoot and troubleshoot them during operation of electric machines.

Master the methodology for calculating the required characteristics of an electric drive, be able to select hardware components, and develop an electric drive control circuit.

Know programming languages and be able to program microprocessors and microcontrollers, be able to select and apply microprocessor-based hardware components for automatic control systems of electric drives.

Know electrical engineering materials and be able to select them for the development and production of electrical engineering products.

Understand the basics of operating electrical installations in hazardous areas.

4 Form of midcourse evaluation

Midcourse evaluation in practice is carried out in the form of differentiated pass.