MECHATRONICS AND FUNDAMENTALS OF PROGRAMMING
(course title)

COURSE SYLLABUS ABSTRACT

6-05-0722-05 Production of products based on three-dimensional technologies
(speciality code and name)

	STUDY MODE
	full-time
Year	4
Semester	7
Lectures, hours	34
Practical classes, hours	16
Laboratory classes, hours	16
Exam, semester	7
Contact hours	66
Independent study, hours	64
Total course duration in hours / credit units	130/4

1. Course outline

The course «Mechatronics and Fundamentals of Programming» contains general ideas about mechatronic systems and their programming.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know:

– main sources of scientific and technical information on mechatronic systems;

– theoretical foundations for the design of mechatronic modules and systems;

– the structure and principles of building control systems for the implementation of fast and accurate movements of the working bodies of mechatronic modules and systems;

– to determine the structure, composition of the measuring information of sensors of various nature to perform various target tasks;

be able to:

– independently understand the regulatory methods for calculating and designing mechatronic modules and systems;

– draw up protocols for the information interaction of measuring and power circuits to solve the tasks;

– calculate the parameters of structural schemes, create prototypes and models of mechatronic modules and systems;

to possess a skill:

– conducting discussions on professional topics;

– knowledge of terminology in the field of mechatronics;

– search for information about mechatronic systems;

– possession of methods for managing systems operating in changing and uncertain conditions.

3. Competencies:

Own modern scientific foundations for the creation and operation of machines and systems with computer motion control.

4. Requirements and forms of midcourse evaluation and summative assessment

The current and intermediate attestation is conducted in written and oral-written form through reports on practical, laboratory work with their oral defense and a written exam.