AUTOMATION OF PRODUCTION EQUIPMENT FOR THREE-DIMENSIONAL TECHNOLOGIES
COURSE SYLLABUS ABSTRACT

Specialty 6-05-0722-05 Production of products based on three-dimensional technologies.

	STUDY MODE
	full-time
Year	4
Semester	7
Lectures, hours	16
Laboratory classes, hours	16
Exam, semester	7
Contact, hours	32
Independent study, hours	68
Total course duration in hours / credit units	100/3

1. Course outline

The purpose of the discipline is to form a natural-science outlook and develop the technical horizons of future specialists in the field of automation, design, operation, repair and assessment of the functional suitability of equipment units for three-dimensional technologies on the market; as well as to give future engineers basic scientific and theoretical knowledge, which is the basis for understanding and mastering general educational, general technical and special disciplines that allow mastering an interdisciplinary approach in solving theoretical and practical problems in their activities using various technological complexes of 3, 4 and 5-coordinate processing in the field of synthesis of three-dimensional products.

2. Course learning outcomes:

Upon completion of the course, students will be expected to **know:**

– types and arrangement of equipment for three-dimensional technologies;

- features of technological processes implemented on a certain type of equipment;

- the main elements of equipment for three-dimensional technologies and their functional indicators;

- features of the interaction of drives of technical systems of equipment with executive bodies, as well as the principles for choosing a specific design of units and parts of equipment for three-dimensional technologies;

– areas of effective application of materials for the manufacture of parts and components of equipment for three-dimensional technologies;

be able to : - to formulate the concept of using equipment according to market indicators;

- to predict manufacturability and reliability indicators when choosing certain technological schemes inherent in a certain type of equipment for three-dimensional technologies;

– evaluate the influence of accompanying technological factors on the effectiveness of three-dimensional synthesis of parts and products;

- determine the cause of failure of individual units of equipment for three-dimensional technologies and formulate requirements for the implementation of maintenance and overhaul.

to possess a skill :

– practical skills in the selection and operation of technological equipment for three-dimensional technologies;

- ways to change the settings and parameters of technological equipment;

– skills in calculating the main characteristics that determine the functional parameters of units, mechanisms and working elements of technological equipment for three-dimensional technologies.

3. Competencies:

Mastering this academic discipline should ensure the formation of the following competencies: Use technical means of automation and technological processes in production, perform quality analysis of automatic regulation and control systems

4. Requirements and forms of midcourse evaluation and summative assessment.

Current and interim assessment are conducted in written and oral-written form by means of tests, reports on practical classes with their oral defense, and written tests.