

METHODS OF RESEARCH OF MATERIALS AND PRODUCTS

ANNOTATION TO THE CURRICULUM OF AN EDUCATIONAL INSTITUTION

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

	Form of higher education
	Full-time (full-time)
Course	3
Semester	5
Lectures, hour	16
Laboratory classes, hour	16
Exam, Semester	5
Classroom hours in the academic discipline	32
Self-paced work, hours	76
Total hours / credits	108 / 3

1. Summary of the academic discipline.

The discipline studies the structure and properties of metals, alloys and composite materials, methods for determining physical and mechanical properties, assessing technological and operational properties. Methods for studying mechanical, physical and chemical properties (mechanical tests, thermal, dilatometric, magnetic analyses), as well as structural research methods (macro-, micro-, electron- and X-ray diffraction analyses) are set out.

2. Learning outcomes:

To know:

- basic methods for studying mechanical, physical and chemical properties;
- basic structural research methods;

can:

- apply basic methods for studying mechanical, physical and chemical properties;
- to use the main structural research methods;
- rationally use reference literature on the selection of materials that provide the necessary indicators of properties;

have the skill:

- study of the structure and properties of materials;
- selection of materials based on their properties and operating conditions.

3. Competencies to be formed:

To master the methods of experimental determination of the indicators of the properties of polymer and composite materials and the quality indicators of products made of them.

4. Requirements and forms of current and intermediate certification.

The defense of laboratory work is carried out in oral or test forms.

The exam is conducted in writing in the form of answers to test questions.

