

PRODUCT DESIGN AND CALCULATION

(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	3
Semester	5, 6
Lectures, hours	50
Practical classes (seminars), hours	32
Laboratory classes, hours	16
Course paper, semester	6
Pass/fail, semester	5
Exam, semester	6
Contact hours	98
Independent study, hours	190
Total course duration in hours / credit units	288/8

1. Course outline

The academic discipline includes familiarization with the basics of product design and the choice of the optimal product design, design calculations for strength, rigidity and reliability, and evaluation of the effectiveness of decisions made.

2. Course learning outcomes

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

- methodology and general issues of product design;
- appointment of the main technological elements of the product;
- basics of calculation and design of typical products;
- test methods for individual structural elements;

be able to:

- choose the shape and design of products;
- compare calculation results with experimental data;
- draw up technical specifications;

to possess a skill:

- use of product design methods;
- use of analytical methods for calculating design elements;
- use of information on typical designs and materials of products;
- use of reference materials for typical design elements of products.

3. Competencies

Have a basic understanding of research activities, search, analyze and synthesize information;

Be capable of self-development and improvement in professional activities;

Show initiative and adapt to changes in professional activities;

To master the basics of designing products from materials used in additive technologies, calculations of rigidity, strength, accuracy and reliability, and assessment of the effectiveness of applied design solutions.

4. Requirements and forms of midcourse evaluation and summative assessment

- oral and written: defense of laboratory work, course paper;
- written: lecture survey, test, exam.