

# DESIGN AND CALCULATION OF PRODUCTS

## ANNOTATION TO THE CURRICULUM OF THE INSTITUTION OF HIGHER EDUCATION

### Specialty 1-36 07 02 – «Production of products based on three-dimensional technologies»

	Form of higher education	
	Full-time (daytime)	Part-time
Course	3	3, 4
Semester	5, 6	6, 7
Lectures, hours	84	14
Practical (seminar) classes, hours	50	4
Laboratory classes, hours	32	8
In-class test (semester, hours)		6 semester, 2 hours
Course project, semester	6	7
Pass/fail, semester	5	6
Exam, semester	6	7
Classroom hours per academic discipline	166	28
Independent work, hours	122	260
Total hours per academic discipline/ credits	288/8	

#### 1. Brief content of the discipline

The academic discipline includes familiarizing students with the basics of product design and studying methods for choosing the optimal product design, studying design calculations for strength, rigidity and reliability, evaluating the effectiveness of decisions made.

#### 2. Learning outcomes

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;

own:

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

#### 3. Formed competencies

BPK-8 Own the basics of designing products from materials used in additive technologies, calculating stiffness, strength, accuracy and reliability, evaluating the effectiveness of design decisions.

#### 4. Requirements and forms of current and intermediate certification.

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