

# MECHANICS OF MATERIALS AND STRUCTURES

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

**Specialty 1-54 01 02 «Methods and instruments for quality control and diagnostics of the state of objects»**

**Specialization 1-54 01 02 02 «Non-destructive testing of materials and products»**

	Form of higher education
	Full-time (daytime)
Course	1
Semester	2
Lectures, hours	50
Practical (seminar) classes, hours	34
Exam, semester	2
Classroom hours for the academic discipline (including hours for managed independent work)	84
Independent work, hours	36
Total hours per academic discipline/ credits	120 / 3

### 1. Brief content of the discipline

The academic discipline includes the study of the basic design and calculation skills of the simplest mechanisms and their elements, which are components of a mechanical drive, which will allow for design development.

### 2. Learning outcomes

know:

- basic concepts, laws and models of mechanics, methods and methods of strength and kinematic calculations;
- the main types of mechanisms used in mechanical drives and the general requirements for them;
- types of analysis (calculation) used in the design of mechanisms;
- types of materials used for the manufacture of components of mechanisms and their main properties.

be able to:

- to carry out engineering calculations of structural elements and units of mechanisms that provide the required strength and reliability;
- to design elements of structures and units of mechanisms.

own:

- methods of kinematic, force and strength analysis of mechanisms;
- methods for measuring the main parameters of the elements of mechanisms used in mechanical drives.

### 3. Formed competencies

BPK-6 Be able to use theoretical principles for the analysis of mechanical systems.

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

- oral and written: protection of settlement and graphic assignments;
- written: tests, exam.