

## Mechanics of materials

### ANNOTATION

#### TO THE CURRICULUM OF AN EDUCATIONAL INSTITUTION

**Specialty** 6-05-0715-03 Automobiles, tractors, mobile and technological complexes

**Profiling:** Computer Engineering

**Specialty** 6-05-0715-07 Operation of ground transport and technological machines and complexes

Profilizatsiya: Technical operation of cars and car service

Specialty 6-05-0715-07	Form of higher education		
	Full-time (full-time)	Specialty 6-05-0715-07, Profilization Profile "Technical operation of cars and auto repair"	
		Part	-time Part-time shortened
Course	2	3	2
Semester	4	5	4
Lectures, hours	34	8	8
Practical classes, hours	34	8	8
Laboratory classes, hours	16	4	4
Classroom control work (semester, hours)	-5	(2 hours)	4 ( 2 hours)-
Exam, semester	4	5	4
Classroom hours in academic discipline	84	22	22
Independent work, hours	96	158	158
Total hours in academic discipline / credits	180/5	180/5	180/5

#### 1. Summary of the academic discipline

The purpose of the discipline is to develop students ' basic knowledge and skills in calculating typical structural elements, mechanical gears, working bodies of machines and mechanisms for strength, rigidity and stability with guaranteed durability.

#### 2. Learning outcomes

know:

- basic hypotheses of material mechanics about the properties of structural materials and the nature of deformation;
- general requirements for structural materials;
- methods for calculating typical structural elements for strength, rigidity and stability;
- methods of experimental investigation of stresses and deformations;

be able to:

- apply in practice methods and approaches to solving engineering problems of calculating structures, parts and assemblies of machines for strength, rigidity and stability;
- to study stresses and deformations by experimental methods;
- to set tasks taking into account the complex operational conditions of the object under study;

have the skill:

- theoretical and experimental analysis of structures for strength, rigidity and stability, taking into account the properties of structural materials;
- calculation of structures for their optimal use;
- calculation of parts and assemblies for strength.

#### 1. Emerging competencies

Perform calculations for strength, rigidity, and stability of structures (6-05 0715-03)

Perform calculations for strength, rigidity and stability of structures (6-05 0715-07)

#### 2. Current and interim certification requirements and forms

Current certification: protection of laboratory work, calculation and design tasks and writing of control works. Intermediate certification- an exam.