

PHYSICS

COURSE SYLLABUS ABSTRACT

7-07-0732-01 Construction of buildings and structures

(speciality code and name)

Roads

(concentration)

	STUDY MODE	
	full-time	part-time reduced
Year	1, 2	1
Semester	2, 3	1
Lectures, hours	68	2
Practical classes (seminars), hours	32	4
Laboratory classes, hours	32	4
Exam, semester	2, 3	1
Contact hours	132	10
Independent study, hours	156	278
Total course duration in hours / credit units	288/8	

1. Course outline: Mechanics. Molecular physics and thermodynamics. Electrodynamics. Harmonic vibrations, mechanical waves. Optics. Quantum and nuclear physics.

2. Course learning outcomes

Upon completion of the course, students will be expected to

know:

- the basic laws and theories of classical and modern physical science, as well as the limits of their applicability;
- methods for measuring the physical characteristics of substances and fields;
- physical foundations of methods for studying substances;
- principles of experimental and theoretical study of physical phenomena;

be able to:

- apply the laws of physics to solve applied engineering problems;
- use measuring instruments in the experimental study of physical and technological processes;
- process and analyze the results of experimental measurements of physical quantities;

to possess a skill:

- methods of physical modeling of technical processes;
- methods of analysis and solution of applied engineering problems.

3. Competencies

BPC-1. Apply knowledge of natural science disciplines for experimental and theoretical study, analysis and solution of applied engineering and construction problems.

4. Requirements and forms of midcourse evaluation and summative assessment.

The current attestation of students is carried out to determine the compliance of the results of their educational activities with the requirements of educational standards, curriculum documentation of educational programs of higher education. A form of the current attestation of students is exams. Current certification is carried out in oral or oral-written form. The form of intermediate certification is a test, which is carried out in writing.