

# THEORY of PHYSICAL FIELDS

## ABSTRACT to the curriculum of the education institution

**Specialty: 6-05-0716-03 – Information-measuring devices and systems**

**Concentration: Information systems and technologies of nondestructive testing and diagnostics.**

	Study mode
	Full-time
Year	2
Term	4
Lectures, hours	34
Practical, hours	34
Exam, term	4
Total hours in class	68
Independent work, hours	148
Total hours in the discipline / credits	216/6

1. Summary of the content of the discipline.

**Objective** of the discipline is to form a basic amount of fundamental concepts, methods, skills and knowledge in the field of physical fields theory, necessary for the mastering of special disciplines.

2. Learning outcomes.

As a result of mastering the discipline, the student must

**Know:** basic laws and relations of the theory of physical fields; mathematical apparatus used to describe and calculate the parameters of physical fields; main physical effects occurring in the interaction of physical fields with matter.

**Be able to:** apply the basic relations of the theory of physical fields in solving various applied problems; calculate the parameters of fields of different physical nature using existing theoretical methods; use the acquired knowledge in designing procedures for nondestructive testing.

**Master:** The mathematics used to describe and calculate the parameters of physical fields; the basic methods for calculating the parameters of physical fields of measuring transducers; the methods for processing the results of non-destructive testing procedures.

3. Competencies to be formed: «Be able to perform analysis and modeling of physical fields and radiation in order to form an information environment».

4. Requirements and forms of ongoing assessment: exam (oral and written form). To qualify for the exam, the student must successfully complete two tests, one per module of the semester.