DEVICES AND METHODS OF ELECTROMAGNETIC CONTROL
ANNOTATION TO THE CURRICULUM OF AN EDUCATIONAL INSTITUTION

Specialty 6-05-0716-03 Information and measuring instruments and systems
Specialization: Information technology and non-destructive testing and diagnostic systems

The distribution of academic discipline by semester

	Form of obtaining higher education	
	Full-time (daytime)	Correspondence abbreviated
Well	4	4
Semester	7	7
Lectures, hours	48	10
Laboratory classes, hours	32	4
Practical classes	16	6
Course project, semester	7	7
Exam, semester	7	7
Classroom hours for the academic discipline	96	20
Independent work, hours	84	160
Total hours per academic discipline / credit units	180/5	

1 Brief content of the academic discipline The discipline contains the basic provisions of the physics of magnetic, electrical and electromagnetic phenomena, physical principles of the main testing methods, and introduces the instrumentation base, methodological and technological issues of applying electromagnetic methods for flaw detection, measuring geometric parameters, monitoring the physical and mechanical properties of materials and products, metrological support of testing tools.

2. Learning outcomes As a result of mastering the academic discipline, the student should know the patterns of formation of magnetic, electric and electromagnetic fields, the characteristics of transducers, the main methods of magnetic, electrical and eddy current testing, the operating principles of devices, be able to develop devices, equipment and methods for testing various objects, carry out their testing and compile process maps; have the skills to implement modern technologies of magnetic, electrical and eddy current testing of materials, products, welded joints, and assess the quality of the objects being tested.

3. Developed competencies Mastering this academic discipline should ensure the formation of the following competencies: be able to select and apply electromagnetic methods and devices to test a specific object.

4 Requirements and forms of current and midterm assessment Current assessment is carried out on the basis of students' defense of individual assignments, as well as their completion of tests. Both oral and written forms are used. Midterm assessment is a test. It is carried out orally.