

**INSTRUMENTS AND MEASUREMENT METHODS UNDER THE CONDITIONS OF
INNOVATIVE DEVELOPMENT OF SCIENCE, ENGINEERING AND TECHNOLOGIES**
(name of academic discipline)

COURSE SYLLABUS ABSTRACT

7-06-0716-03 – Instrumentation
(speciality code and name)

	STUDY MODE	
	full-time	part-time
Course	1	1
Semester	1	1
Lectures, hours	16	4
Practical (seminar) classes, hours	16	4
Exam, semester	1	1
Classroom hours per academic discipline	32	8
Independent work, hours	64	88
Total hours per academic discipline /	96/3	

1. Course outline

The purpose of the discipline is to master the fundamentals of metrology, develop a systematic approach to solving measurement problems, prepare for the development of applied disciplines devoted to methods and measuring instruments.

2. Course learning outcomes

As a result of mastering the academic discipline, the student must:

know: the main directions of the modern theory of measurements; to know the currently achieved characteristics of the accuracy of reproduction of quantities, the procedures for transferring units of physical quantities from standards to working measuring instruments (verification schemes);

be able to: build mathematical models of measurement objects; evaluate the errors of functions of approximate values of parameters; analyze measurement conditions;

have a skill: an idea of the principles of constructing equations for the processes of measuring various physical quantities; skills in processing measurement results.

3. Competencies

- develop innovative receptivity and ability to innovate;
- solve the problems of optimal use and design of information-measuring systems based on the analysis and synthesis of mathematical models of specific measurement processes under the conditions of known limitations in relation to system elements.

4. Requirements and forms of current and intermediate certification.

Exam – midterm assessment. Current assessment – defense of individual assignments.