

Summary of discipline Fundamentals of Engineering Experiment Introduction
The program of the course "Basics of Engineering Experiment" composed according to the educational and vocational training programs direction 6.051003 "Instrument" (specialty 7.05100302 "Devices and systems for precision mechanics").

Academic discipline belongs to the cycle optional subjects.

The subject of the course - the main stages of the experiment in engineering design and construction principles and design of devices and systems for electrical and mehanotroniky.

Interdisciplinary relations: the structural and logical scheme application training specialist discipline studied in the final stages of preparation, based on the most previously studied disciplines such as higher mathematics, computer science and programming, metrology, theory and design of instrumentation, test instruments, organization and economy production planning, and others.

1. The purpose and objectives of the course

1.1. The purpose of discipline.

The aim of the course is to develop students' abilities:

- ? to solve the main issues for the organization and engineering experiment;
- ? the processing and evaluation of engineering experiment;
- ? use the knowledge to solve relevant scientific and operational objectives;
- ? conduct analytical review, classification and selection of devices and systems for electrical and mehanotroniky;
- ? use the appropriate knowledge to solve practical problems.

1.2. The main objectives of the course.

Requires educational and professional program students after mastering discipline must demonstrate the following learning outcomes:

knowledge:

the main issues of training, planning and conducting engineering experiment, the main methods of processing the results of the experiment, their assessment and analysis; major issues of principles of construction devices and systems for electrical and mehanotroniky, design features and design of major components and systems;

the ability to:

analyze the determining factors when choosing the strategy of the experiment, to estimate the main components in the formulation of the problem, apply the basic principles of the theory of planning, focus on ways to get the function goals of processing the results of the experiment, assess their reliability; perform analytical review, classification and selection of devices and systems for electrical and mehanotroniky, to conduct their functional and structural analysis, design and perform the necessary engineering calculations;

experience:

independent implementation of knowledge and skills in a practical setting and experiment in the practical tasks of development and use of devices and systems for electrical and mehanotroniky.