

# PLANNING A SCIENCE EXPERIMENT

## ANNOTATION

### TO THE CURRICULUM OF THE INSTITUTION OF HIGHER EDUCATION

**Specialty** 7-05-0612-03 - Information Control Systems  
**Profile:** Automated Systems of Information Processing

	Form of higher education	
	Full-time	Correspondence
<b>Course</b>	<b>2</b>	<b>2</b>
<b>Semester</b>	<b>3</b>	<b>4</b>
<b>Lectures, hours</b>	<b>34</b>	<b>8</b>
<b>Laboratory, hours</b>	<b>34</b>	<b>8</b>
<b>Exam, semester</b>	<b>3</b>	<b>4</b>
<b>Classroom hours in the educational discipline</b>	<b>68</b>	<b>16</b>
<b>Self-work, hours</b>	<b>112</b>	<b>164</b>
<b>Total hours of the discipline / credit units</b>	<b>180/5</b>	

#### 1. Course outline

The aim of the discipline is to familiarise undergraduates with the basic definitions and concepts of experimental research, methods of planning and organisation of experimental research, principles of data analysis and processing, learning typical examples of the application of modern methods of processing experimental research results.

#### 2. Course learning outcomes

The objectives of the discipline are: mastering the specific terminology of the mathematical theory of experiment planning; learning the theory of planning of passive and active experiments; conducting experiments to solve engineering problems.

As a result of mastering the discipline the student should

know: basics of planning experiments and processing of their results; general rules for the analysis of data and drawing conclusions from the experimental results; statistical methods in conducting experiments and analysis of experimental results;

be able to: plan and conduct experimental research, process experimental results; conduct research of new technologies, tools, projects and solutions, evaluate their innovation potential.

To know: methods and equipment of experimental research; modern means of analysis and mathematical processing of measurement data.

#### 3. Competencies

- Apply methods of scientific cognition in research activities, generate and implement innovative ideas

- Be able to communicate, show leadership skills, be capable of team building and development of strategic goals and objectives

- Be able to foresee conditions for professional activity and solve professional tasks under uncertainty

- Analyse and solve scientific and technical problems in planning and conducting scientific experiments

#### 4. requirements and forms of current and intermediate attestation.

Defence of laboratory works – current, oral -written, credit – intermediate, oral -written