"Random processes in information processing systems "

(name of the discipline)

ANNOTATION

TO THE CURRICULUM OF THE INSTITUTION OF HIGHER EDUCATION

Specialty 1-40 80 02 "System Analysis, Control and Processing of Information" (by branches)
Professionalization: Information Control Systems
II level of higher education (master's degree)

	Form of higher education
	Full-time
Course	**1**
Semester	**1**
Lectures, hours	**18**
Practical classes, hours	**18**
Test, Semester	**1**
Classroom hours in the educational discipline	**36**
Independent work, hours	**36**
Total hours of the discipline / credit units	**108/3**

1.Summary of the contents of the discipline

Familiarization with mathematical methods of describing random sequences and processes, research of the structure and properties of random processes; gaining practical skills in applying methods of random process theory to solve practical problems, expanding the ability to analyze and predict the development of random processes, teaching the basics of using software tools to study random processes.

2 Learning objectives

As a result of studying the discipline, the student should **know**:
- fundamental concepts, modern approaches, methods and problems of machine learning and data mining.

be able to:
- understand and formalize the set problem of data analysis;
- use modern methods of machine learning for practical solutions of data analysis problems;
- if necessary, dictated by the peculiarities of the task, create new methods of machine learning;
- conduct numerical experiments on model and real data and interpret their results;
- present research results orally and in writing.

master:
- skills in mastering large amounts of information and solving complex theoretical and practical data analysis problems;
- The culture of setting, analyzing and solving mathematical and applied problems that require the use of mathematical approaches and methods for their solution;
- The subject language of machine learning and data mining, the skills of describing problem solving and presenting the results obtained.

3. Competencies to be formed

UPK-2 Compose mathematical models of information flows under conditions of lack of information.

4 Requirements and forms of current and interim assessment.

PDD, TA, credit.