Approved from the Faculty council with protocol: 3/04.05.2022 г.

DEAN:

/prof. Al.Zlatkov, DSc/

DEPARTMENT "ORGANIZATION AND ECONOMICS OF PHARMACY"

SYLLABUS

of

STATISTICAL METHODS IN PHARMACY

INCLUDED IN "P**HARMACY**" EDUCATION CURRICULUM

DEGREE OF EDUCATION: "**MASTER**"

CREDITS (ECTS): 3

ANNOTATION

In the discipline "Statistical Methods of Pharmacy", pharmacy students get acquainted with the basic modern probabilistic-statistical methods, which prepares them theoretically and practically for successful modelling and solving random events and processes and for scientifically sound processing and analysis of experimental data in medicine and pharmacy. The future pharmacist, who has mastered the basics of computer literacy and higher mathematics, probability theory and mathematical statistics, will be ready for systematic research, processing and analysis of available statistical information to improve the drug supply process. The methods of mathematical and statistical modelling will prepare the future creator of new dosage forms to successfully establish relationships between the chemical structure and pharmacological action of biologically active substances and the biopharmaceutical and pharmacokinetic characterization of different drugs.

Aim of the education on the subject – The aim of the course is for students to achieve theoretical knowledge and practical skills for the successful identification, modelling and solving of the main tasks of probability theory.

Structure of the program – The program includes a lecture course and practical classes, in which students are trained in the necessary theoretical knowledge and practical skills to achieve the objectives described above.

Acquired competencies – At the end of the course students will have the necessary theoretical knowledge and practical skills related to:

- Successfully identify, classify and solve the main tasks of probability theory.
- Successful modelling of various phenomena and processes in the field of medicine and pharmacy, with the apparatus of probability theory.
- Mastering the necessary basis of theoretical facts in probability theory, which allow the successful mastering and understanding of the statistical module of the course in Information Technology, which is included in the program for the third semester.

The assessment of the students is based on their successful performance on the statistical test.

Type of control and evaluation: Students will be evaluated on the basis of the exam test result with 6 different problems.

<p align="center">**English language training**</p>

SYLLABUS

1. Elements of algebra and set theory.

2. Basic concepts of classical probability theory.

3. Combinatorial method for solving probabilistic problems: examples and applications

4. Analytical method for solving probabilistic problems: examples and applications

5. Schematical method for solving probabilistic problems: examples and applications

6. Repeated experiment: examples and applications.

7. Discrete random variables – common case: examples and applications.

8. Special types of discrete random variables: examples and applications.

9. Special aspects and models of classical probability.

10. Applications in medicine and pharmacy.

Date ....   Program authors:

                       /Team of Department "Organization and economics of pharmacy/

Head of Department "Organization and economics of pharmacy":

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