

AMENDMENTS AND CHANGES TO THE CURRICULUM IN THE EDUCATIONAL DISCIPLINE

« Biomedical Statistics »
for the specialty 7-07-0912-01 «Pharmacy»
for 2024/2025 academic year

Amendments and changes	Basis/Reason
1. Changes have been introduced into the Explanatory Note (appendix 1)	Educational Plan for 2024/2025 academic year
2. Changes have been introduced into the Thematic Plan (appendix 2)	Educational Plan for 2024/2025 academic year
3. Changes have been introduced into the Educational Discipline Curricular Chart (appendix 3)	Educational Plan for 2024/2025 academic year
4. The list of practical skills has been updated (appendix 4)	by the Department meeting (protocol №11 of 17.06.2024)
5. The list of literature and normative legal acts is up-to-date	by the Department meeting (protocol №11 of 17.06.2024)

The curriculum is revised and approved at the department meeting of Public Health and Healthcare
(protocol #11 of 17.06.2024)

Head of the department of Public Health and Healthcare

T.P. Pavlovich

APPROVED

Dean of the Faculty for International Students

O. S. Ishutin

Changes in the Explanatory Note

Total number of hours for the study of the discipline is 90 academic hours, of which 40 classroom hours and 50 hours of student independent work. Classroom hours according to the types of studies: lectures – 12 hours (including 3 hours of supervised student independent work (SSIW)), seminars - 28 hours.

ALLOCATION OF ACADEMIC TIME ACCORDING TO SEMESTERS OF STUDY

Code, name of the specialty	semester	Number of academic hours						Form of intermediate assessment
		total	in-class	including			out-of-class self-studies	
				lectures	supervised student independent work	Practical classes		
7-07-0912-01 «Pharmacy»	2	90	40	9	3	28	50	credit

THEMATIC PLAN

Section (topic) name	Number of class hours	
	lectures (incl. SSIW)	practical classes
1. Introduction to biomedical statistics. Basic concepts of evidence-based medicine	2	-
2. Fundamentals of probability theory	4	6
3. Mathematical statistics	6	20
4. Time series	-	2
Total hours	12	28

ACADEMIC DISCIPLINE CURRICULAR CHART

ON «BIOMEDICAL STATISTICS» OF THE MODULE « INFORMATION TECHNOLOGIES IN PHARMACY »

Section, topic #	Section (topic) name	Number of hours		Supervised student independent work	Practical skills	Form of control	
		lectures	seminars			of practical skills	of current* / intermediate assessment
Lectures							
1.	Introduction to biomedical statistics. Basic concepts of evidence-based medicine	1,5	–	–		Reports	
2.	Fundamentals of probability theory	3	–	1,5			
	Event and probability	1,5	–	–		Reports	
	Discrete and continuous random variables	1,5	–	1,5		Reports	
3.	Mathematical statistics	4,5	–	1,5			
	Sampling method	1,5	–	–		Reports	
	Statistical hypotheses	1,5	–	1,5		Reports	
	Correlation and regression analysis	1,5	–	–		Reports	
Practical classes							
2	Fundamentals of probability theory	–	6	–			
	Discrete and continuous random variables	–	2	–		Interview, electronic tests, accounts of classroom (home) practical exercises with oral defense	

Generalizing indicators and data visualization in statistics and medicine	–	2	–	Visualization of statistical values	Problem-solving task	Interview, electronic tests, accounts of classroom (home) practical exercises with oral defense
Variational series	–	2	–	Calculation of average values. Characteristics of the diversity of variables in the sample	Problem-solving task	Interview, electronic tests, accounts of classroom (home) practical exercises with oral defense
3 Mathematical statistics	–	20	–			
Sampling method	–	2	–	Identify errors in reporting statistical analysis of medical data	Problem-solving task	Reports, electronic tests, accounts of classroom (home) practical exercises with oral defense
Diversity of variables in the totality	–	2	–	Calculation of average values. Characteristics of the diversity of variables in the sample	Problem-solving task	Interview, electronic tests, accounts of classroom (home) practical exercises with oral defense
Distribution of variables in the totality	–	2	–	Use of specialized programs to solve typical practice-oriented tasks	Problem-solving task	Interview, electronic tests, accounts of classroom (home) practical exercises with oral defense
Parametric methods for testing statistical hypotheses (comparison of the averages of the two samples)	–	2	–	Assessing the reliability of the research result	Problem-solving task	Interview, electronic tests, accounts of classroom (home) practical exercises with oral defense
Parametric methods for testing statistical hypotheses (comparison of the relative values)	–	2	–	Drawing up an algorithm for applying the criterion of statistical significance	Problem-solving task	Colloquiums. Interview, electronic tests, accounts of classroom (home) practical exercises with oral defense

Analyses of variance	–	2	–	Performing analysis of variance, interpreting results	Problem-solving task	Interview, electronic tests, accounts of classroom (home) practical exercises with oral defense
Nonparametric methods for testing statistical hypotheses	–	2	–	Application of parametric and nonparametric criteria for testing statistical hypotheses	Problem-solving task	Interview, electronic tests, accounts of classroom (home) practical exercises with oral defense
Correlation. Pearson correlation coefficient	–	2	–	Determination of the correlation (Pearson correlation coefficient)	Problem-solving task	Interview, electronic tests, accounts of classroom (home) practical exercises with oral defense
Regression analysis	–	2	–	Conducting the regression analyses	Problem-solving task	Interview, electronic tests, accounts of classroom (home) practical exercises with oral defense
Spearman's rank correlation coefficient	–	2	–	Determination of the correlation (Spearman's correlation coefficient)	Problem-solving task	Interview, electronic tests, accounts of classroom (home) practical exercises with oral defense
4 Time series	–	2	–	Calculate and analyze time series indicators	Problem-solving task	Interview, accounts of classroom (home) practical exercises with oral defense.
Total hours	9	28	3			Credit

*This is a mandatory form of current certification (each student will receive a mark)

LIST OF PRACTICAL SKILLS
« BIOMEDICAL STATISTICS »
FOR THE SPECIALTY 7-07-0912-01 «Pharmacy»

Name of practical skills	Practical skill control form
1. Visualization of statistical values	Problem-solving task
2. Calculation of average values. Characteristics of the diversity of variables in the sample	Problem-solving task
3. Drawing up an algorithm for applying the criterion of statistical significance	Problem-solving task
4. Assessing the reliability of the research result	Problem-solving task
5. Application of parametric and nonparametric criteria for testing statistical hypotheses	Problem-solving task
6. Performing analysis of variance, interpreting results	Problem-solving task
7. Determination of the correlation (Pearson correlation coefficient)	Problem-solving task
8. Conducting the regression analyses	Problem-solving task
9. Determination of the correlation (Spearman's correlation coefficient)	Problem-solving task
10. Calculate and analyze time series indicators	Problem-solving task
11. Use of specialized programs to solve typical practice-oriented tasks	Problem-solving task
12. Identify errors in reporting statistical analysis of medical data	Problem-solving task