

Syllabus
Fall Semester, 2025–2026 Academic Year
Educational Program: 7M10102 – Public Health

ID and Title of subject	Student-independent work (SIW)	Credits			Number of credits	Student-independent work under Supervision	
		Lecture (L)	Seminars (S)	Lab. classes (LC)			
96203 Working with databases and evaluating scientific research results.	4	-	45	-	5	6	
АКАДЕМИЧЕСКАЯ ИНФОРМАЦИЯ О ДИСЦИПЛИНЕ							
Mode of Instruction	Цикл, компонент	Type of lecturers	Seminar topics		Final Assessment:		
Offline	B Component of choice	-	Seminar		Creative assignment / Online via Moodle LMS		
Lecture	Iskakova Farida Arkenovna						
e-mail:	Iskakova.farida@kaznu,kz						
phone	+77011013086						
Assistent	-						
e-mail:	-						
phone	-						
ACADEMIC PRESENTATION OF THE DISCIPLINE							
Goal	Learning Outcomes (LOs)				Indicators (IOs)		
To develop the ability of master's students to apply statistical software for the performance of statistical analysis.	1. Describe concepts and terminology of database theory and application.				IO 1.1: Create a database structure (layout) in MS Access according to research logic.		
					IO 1.2: Distinguish variable types and set attribute parameters accordingly.		
	2. Plan database organization.				IO 2.1: Apply principles of database management.		
					IO 2.2: Identify general features of SPSS and MS		
	3. Conduct descriptive statistics for research data.				IO 3.1: Enter data into the database.		
					IO 3.2: Apply descriptive statistics measures according to variable types.		
	4.Select statistical criteria for analytical statistics based on research aims and data.				IO 4.1: Use statistical tools to select appropriate statistical procedures.		
					IO 4.2: Determine statistical significance of relationships and differences for all variable types using appropriate tests.		
	5. Justify and present research results.				IO 5.1: Present results in tables and graphs.		
					IO 5.2: Formulate conclusions suitable for theses, articles, and reports		

Prerequisites	Bio5301
Postrequisites	UPZ 6307
Learning resources	Core Literature Petrie, A., & Sabin, C. (2015). Medical statistics at a glance. Moscow: GEOTAR-Media. Nasledov, A. (2013). IBM SPSS Statistics 20 and AMOS: Professional statistical data analysis. St. Petersburg: Piter. DePoy, E., & Gitlin, L. N. (2017). Methods of scientific research in medicine and healthcare (V. V. Vlasov, Ed.; Russian ed.). Moscow: GEOTAR-Media. Koichubekov, M. A., Sorokina, A. S., Bukeeva, & others. (2016). Biostatistics in examples and exercises: Teaching manual for universities. Almaty: Evero. Koichubekov, B. K. (2015). Biostatistics: Textbook. Almaty: Evero. Additional Literature Grjibovski, A. M., Ivanov, S. V., & Gorbatova, M. A. (2016). Descriptive statistics using Statistica and SPSS: Testing distributions. Science and Healthcare, 1, 7–23. Grjibovski, A. M., Ivanov, S. V., & Gorbatova, M. A. (2016). Comparison of two independent samples using Statistica and SPSS: Parametric and nonparametric criteria. Science and Healthcare, 2, 5–28. Grjibovski, A. M., Ivanov, S. V., & Gorbatova, M. A. (2016). Comparison of two paired samples using Statistica and SPSS. Science and Healthcare, 3, 5–25. Grjibovski, A. M., Ivanov, S. V., & Gorbatova, M. A. (2016). Comparison of three or more independent samples using Statistica and SPSS. Science and Healthcare, 4, 5–37. Grjibovski, A. M., Ivanov, S. V., & Gorbatova, M. A. (2016). Comparison of three or more paired samples using Statistica and SPSS. Science and Healthcare, 5, 5–29. Research Infrastructure Computer classroom 6A Scientific databases: Gapminder, CDC Online Resources: KazNU E-Library Statistics of Kazakhstan Software: MS Excel, MS Access, IBM SPSS

Academic Policy	General: The course follows the Academic Policy and Academic Integrity Policy of Al-Farabi Kazakh National University. Documents are available on the <i>Univer</i> system. Integration of Science and Education: Student research at all levels is organized within departments, labs, and research units, integrating scientific results into lectures, seminars, labs, and assignments. Attendance and Deadlines: All deadlines are specified in the course calendar. Missing deadlines results in loss of points. Academic Integrity: Plagiarism, falsification, cheating, or use of unauthorized materials are strictly prohibited. Final assessments are governed by official university regulations on exams and plagiarism checks. Inclusive Education: The university ensures a safe, supportive environment with equal treatment regardless of gender, ethnicity, religion, socio-economic status, or health condition. Students with disabilities can request support via  iskakova.farida@kaznu.kz,  +7 701 101 3086, or Zoom consultation link (ID: 778 0130 2391, Passcode: 7ZaZwz). MOOC Integration: If MOOCs are part of the course, students must register and complete modules on schedule. Deadlines must be respected to avoid point deductions.
------------------------	---

NFORMATION ABOUT TEACHING, TRAINING, AND ASSESSMENT						
Grading System: Letter-based, credit-modular, percentage-weighted.				Методы оценивания		
Grades	GPA	%	Meaning	Criterion-based assessment is the process of comparing actual learning outcomes with expected learning outcomes based on clearly defined criteria. It is based on formative and summative assessment. Formative assessment is a type of assessment that is conducted during everyday learning activities. It is a current indicator of academic performance. It ensures effective communication between the student and the teacher. It allows you to determine the student's abilities, identify difficulties, help achieve the best results, and allow the teacher to adjust the educational process in a timely manner. It assesses the completion of assignments, active participation in the classroom during lectures, seminars, and practical classes (discussions, quizzes, debates, round tables, laboratory work, etc.). It assesses the knowledge and skills acquired. Summative assessment is a type of assessment that is conducted upon completion of a section in accordance with the course program.It is conducted 3-4 times per semester when completing the SRO. This assessment evaluates the achievement of expected learning outcomes in relation to descriptors. It allows you to determine and record the level of mastery of the discipline over a certain period. Learning outcomes are assessed.		
A	4,0	95-100	Excellent			
A-	3,67	90-94				
B+	3,33	85-89	Good			
B	3,0	80-84				
B-	2,67	75-79				
C+	2,33	70-74				
C	2,0	65-69	Satisfactory	Test	10	
C-	1,67	60-64		Project and creative work	60	
D+	1,33	55-59	Unsatisfactory	Final assessment (exam)	40	
D	1,0	50-54		Total	100	
Course Calendar (Sample Weekly Schedule)						
week	topic				Кол-во часов	Макс. балл
Module 1: Measurement Scales and Data Management						
1	S. Software for data analysis in Excel (formulas, statistical/logical functions).				3	6
2	S. Analysis ToolPak in Excel, graphical presentation of data.				3	6
3	S. Relational databases in MS Access, interface, database objects				3	
	SIWS1. Consultation on SIW 1.				1,17	-
4	S. Queries, data modification, group operations, calculated fields, schema design.				3	6
5	S. Forms in MS Access; database project				3	6
	SIW1. Create database in SPSS.				24.5	25
Module 2: Descriptive Analysis and Data Reliability						
6	Introduction to SPSS, database creation, scales of measurement, import/export				3	6
	SIWS 2. Consultation on SIW 2.				1,17	-
7	Data operations in SPSS (selection, transformation, new variables).				3	6
	SIW2. Import, formation database in SPSS.				24,5	25
8	Tests for distribution in SPSS; consultation & colloquium in SPSS				3	8
	SIWS 3. Consultation on SIW 3				1,17	
	SIWS 4. Colloquium				1,17	
	Module 2: Descriptive Analysis and Data Reliability				3	
9	S. Parametric tests in SPSS: One Sample T-Test, Independent Sample T-Test.				3	7
	SIW 3. Descriptive statistics and verification of data distribution in SPSS.				24.5	25
10	S.Parametric tests in SPSS: Paired T-Test and one-ANOVA Test				3	7
Module 3: Dependency Analysis and Data Comparison						
11	S.Chi-square Test.				3	7
12	Non-Parametric Tests: Mann–Whitney U Test for two independent groups. Wilcoxon Signed Test for two related samples (alternative to paired t-test).				3	7
	SIWS 5. Consultation on SIW 4.				1.17	
13	S. Non-Parametric Tests: Kruskal–Wallis Test for more than two independent groups. Friedman Test for more than two related groups. Fisher’s Exact Test for small in categorical analysis.				3	7
14	S.Correlational analysis.				3	7

	SIW 4. Parametric and Non-Parametric Tests	24.5	25
15	S. Simple linear regression in SPSS.	3	8
	SIWS 6. Colloquium.	1.17	
	Midterm 2	100	
	Final control (exam)	100	
	Total scores for a subject	100	

Dean: _____ S. B. Kalmakhanov

Chair of Academic Council: _____ G. M. Kurmanova

Head of Department: _____ A. E. Ualieva

Lecturer: _____ F.A.Iskakova

