SYLLABUS
2022-2022 academic years
«7M10117 Epidemiology for Pharmacy

Code of discipline	Title	Student independent work (SIW)	N. of hours			Credits	Student independent work under Teacher's supervision (SIWT)
			Lectures (L)	Classes (C)	Lab.		
EpiF6304	**Epidemiology for Pharmacy**	98	15	30	-	6	7

Academic information about the course

Type of learning	Type of the course	Types of lectures	Types of practical class	No. of SIW	Form of final control
Online	Theoretical	-	Vebinar	5	exam
Lecturer	Искакова Фарида Аркеновна				
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Academic presentation of the course

Aim of course	Expected learning outcomes (LO) As a result of studying the discipline, the student will be able to:	Indicators of achievement LO (IA) (for each LO at least 2 indicators)
To build master students' knowledge and skills of understanding of communicale and non-communicable diseases, prevention and control on epidemiological approaches, and use of epidemiological methods for solving Public Health issues.	1. Modern theories of epidemiology give a description; epidemiological research and classification of basic methods.	1.1 For the study of infectious and non-infectious diseases uses theories of probability and causality.
		1.2 Distinguishes types of epidemiological studies.
	2. Modern epidemiological approaches and using national and international level of health care description of topical issues.	2.1 Using epidemiological methods and techniques identifies health problems. 2.2 Morbidity control program appreciates. 2.3 Influence on the spread of the disease and its spread to the population identifies the leading factors.

	3. Medical and biomedical Analysis of modern methods of statistical analysis and computer in research Independent use of statistical programs.	3.1 Descriptive epidemiological studies Conducts data collection and quantitative assessment of epidemiological indicators for data analysis.
		3.2 In analytical and experimental research assesses the relationship between risk factors and disease development.
		3.3 Uses a computer program to investigate the outbreak of infectious diseases.
	4. In the field of public health planning of epidemiological researches.	4.1 Formulates a research hypothesis
		4.2 Epidemiological model and sources makes a choice.
		4.3 Advantages of different educational projects and critically evaluate the limitations and choose a design conducts.
	5. Diagnostic, etiological, prognostic nature of public health and conduct epidemiological studies in accordance with therapeutic issues.	5.1 Research in accordance with health problems determines the direction, forms the research question.
		5.2 Develops and conducts research: research groups, sample size, time.
		5.3 Conducts analysis; in abstracts, articles, draws conclusions for reporting.
	6. Interpretation and presentation of research results, health substantiated scientific publications in the field critical using medical databases assessment from the point of view.	6.1 Compares the results of the study and world data and / or previous correlates with research.
		6.2 Evidence of health issues under study offers solutions

Prerequisites	Bio2215, OE3216
Post-requisites	RBDONI6206, DM5208, EE5307
Literature and sources	**Basic References:** 1. Gordis, Leon, Epidemiology, 5th Edition, W.B. Saunders company, 2013.- 2 . Principles of Epidemiology in Public Health Practice, 3d Edition, CDC, US Department of Public Health, 2012 3. High-Yield Biostatistics, Epidemiology, & Public Health, 4th Edition Kaplan USMLE, Lecture Notes, Behavioral Sciences and Social Science, 2017.-229p. 4. Wolfgang, A. Handbook of Epidemiology. 5 vol.//Ahrens Wolfgang, Peugeot Iris. - 2 ed.- Springer Reference, 2014. 5. Aschengrau A., Essentials of Epidemiology in Public Health, 3rd Edition.- 2008 6. Rothman, Kenneth J.; Greenland, Sander; Lash, Timothy L. Modern Epidemiology, 3rd Edition - 2008 Lippincott Williams & Wilkins **Additional references:** 7.Water, Sanitation, & Environmentally-related Hygiene//https://www.cdc.gov/ healthywater/hygiene/audience-healthprofessionals.html 8. Modern Epidemiology. 3rd Edition Keneth.J. Rothman, Sander Greenland, Timothy L. Lash.-2008.-158 p.
Websites	1.www.who.org 2. www.cdc.gov 3. www.medscape.com 4. www.oxfordmedicine.com 5. www.uptodate.com 6. www.medline 7. www.cockrane.library 8. https://pubmed.ncbi.nlm.nih.gov/ 9. http://www.gbd.org/
University moral and ethical values within the course academic policy	Rules of academic conduct: All students must register at the university. Terms of teaching online course modules must be kept in accordance with the schedule. PAY ATTENTION! Failure to comply with deadlines will result in loss of points! For each task in the calendar (schedule) of implementation of the content of the deadline course, as well as in the HEI shown. Academic values: - Practical / laboratory classes, IWS should be original and creative.

	- Plagiarism, false information, copying are prohibited at all stages of control. - Consultation for students with disabilities by e-mail aliya.ualiyeva@kaznu.kz can get help.
Assessment and grading	Criteria-based assessment: assessment of learning outcomes in accordance with the descriptors (intermediate control and checking the formation of competencies in exams). Summative assessment: assessment of activity in the classroom (webinar); performed task assessment. The final grade for the discipline is calculated by the following formula: where RK - intermediate control; MT - intermediate examination (intermediate control); IR - final control (exam).

Grading

Alphabetical	Numeric	% -	traditional
A	4	95-100	Perfect
A-	3.67	90-94	
B+	3.33	85-89	Good
B	3	80-84	
B-	2.67	75-79	
C+	2.33	70-74	
C	2.0	65-69	Satisfied
C-	1.67	60-64	
D +	1.33	55-59	
D-	1	50-54	
Fx	0,5	25-49	Unsatisfied
F	0	0-24	

Schedule of an implementation with the course content:

Week	Topic title	LO	IA	N. Hours	Max. Scores	Knowledge assessment form	Type of platform
Module 1. Basics and concepts of epidemiology							
1	Lecture 1. Introduction to Epidemiology.	LO1	IA 1.1	2		TT	Vebinar in Zoom
	Seminar 1. Definition, purpose and objectives of	LO1	IA 1.1	2	8	TT	Vebinar in

	Epidemiology. Causal thinking. Core epidemiologic Functions. The Epidemiologic Approach.	LO1	IA 1.2 IA 2.2				Zoom
2	Lecture 2. Concepts of Disease Occurrence.	LO1 LO2	IA 1.1 IA 2.1 IA 2.2	2		TT	Vebinar in Zoom
	Seminar 2. Concepts of Disease Occurrence. Natural History and Spectrum of Disease. Chain of Infection. Epidemic Disease Occurrence.	LO1 LO2	IA 1.1 IA 2.1 IA 2.2	2	8	Discussion	Vebinar in Zoom
3	Lecture 3. Quantitative and Qualified Epidemiology.	LO3	IA 3.1 IA 3.2 IA 3.3	2		TT	Vebinar in Zoom
	Seminar 3. Quantitative and Qualified Epidemiology. Measures of risk. Frequency Measures. Morbidity and Mortality Frequency Measures. Natality (Birth) Measures. Measures of Association. Measures of Public Health Impact.	LO3	IA 3.1 IA 3.2 IA 3.3	2	8	TT	Vebinar in Zoom
	MIWT 1 Consultation for masters independent work carry out on MIW.			2,3		Discussion	
4	Lecture 4. Epidemiological Investigation. Investigating an Outbreak.	LO3 LO4	IA 3.1 IA 4.1 IA 4.2 IA 4.3	2		TT	Vebinar in Zoom
	Seminar 4. Epidemiological Investigation. Investigating an Outbreak.	LO3 LO4	IA 3.1 IA 4.1 IA 4.2 IA 4.3	2	8	TT	Vebinar in Zoom
5	Lecture 5. Public Health Surveillance.			2		TT	Vebinar in Zoom

Week	Topic title	LO	IA	N. hours	Max. scores	Educated Assessment form	Type of platform
	Seminar 5. Public Health Surveillance. Purpose and Characteristics of Public Health Surveillance. Identifying Health Problems for Surveillance. Identifying or Collecting Data for Surveillance. Analyzing and Interpreting Data. Disseminating Data and Interpretations. Evaluating and Improving Surveillance.	LO5 LO6	IA 5.1 IA 5.2 IA 5.3 IA 6.2	2		TT	Vebinar in Zoom
	MIWT 2 Consultation for masters independent work carry out on MIW 1.			2.3		Discussion	
	MIW 1. « Outbreak of measles in South Corea»	LO5 LO6	IA 5.1 IA 5.2 IA 5.3 IA 6.2		50	ЖТ	SDO MOODLE
MT 1					100		
Module II. Methodological approaches in Epidemiology							
6	Lecture 6. Concepts and Design of Epidemiological Studies. Descriptive studies.	LO3 LO4	IA 3.2 IA 4.1 IA 4.2 IA 4.3	2		TT	Vebinar in Zoom
	Seminar 6. Concepts and Design of Epidemiological Studies. Descriptive studies: case reports, case series, ecological and cross-sectional.	LO1 LO4	IA 1.2 IA 4.1 IA 4.2 IA 4.3	2	8	TT	Vebinar in Zoom
	Lecture 7. Analytical studies. Case-control study.	LO3 LO4	IA 3.2 IA 4.1 IA 4.2 IA 4.3	2		TT	Vebinar in Zoom
7	Seminar 7. Analytical studies. Case-control study: strength and limit\fiions, measure association, using in Medicine. Measures of association or measures of excess risk. OR, RR, AR, AR%, PAR, PAR%. Practical work: analysis of case-control study using scientific articles from websites as an example.	LO3 LO4	IA 3.2 IA 4.1 IA 4.2 IA 4.3	2	8	Discussion	Vebinar in Zoom

Week	Topic title бақылауды талдау.	LO	IA	Сағат N.hours	Ең жоғары балл	Білімді бағалау формасы	Сабақты өткізу түрі / платформа
	MIWT 3 Consultation for masters independent work carry out on MIW 2	LO1 LO4	IA 1.2 IA 4.1 IA 4.2 IA 4.3	2,3		Discussion	Vebinar in Zoom
8	Lecture 8. Analytical studies. Cohort study.	LO3 LO4	IA 3.2 IA 4.1 IA 4.2 IA 4.3	2	8	TT	Vebinar in Zoom
	Seminar 8. Analytical studies. Cohort study: strength and limitations, measure association, measurement of expose in studies (RR, AR, AR%, PAR,PAR%). Using cohort studies in Medicine. Practical work: analysis of case- control study using scientific articles from websites as an example.	LO3 LO4	IA 3.2 IA 4.1 IA 4.2 IA 4.3	2	8	TT	Vebinar in Zoom
	MIWT 4 Consultation for masters independent work carry out on MIW 2	LO1 LO4	IA 1.2 IA 4.1 IA 4.2 IA 4.3	2,3		Discussion	Vebinar in Zoom
	MIW 2. Doll and Hill's classic study of lung cancer The study of cancer (1948), evaluation of raw and stratified OR	LO1 LO4	IA 1.2 IA 4.1 IA 4.2 IA 4.3		60	IT	SDO MOODLE
9	Lecture 9. Experimental studies.	LO3 LO4	IA 3.2 IA 4.1 IA 4.2	2		TT	Vebinar in Zoom

Week	Topic title	LO	IA	Сағат N.hours	Ең жоғары балл	Білімді бағалау формасы	Сабақты өткізу түрі / платформа
			IA 4.3				
9	Seminar 9.Experimental studies Experimental studies. Randomized controlled trial and non-randomized trial. Stratified, crossover, factorial design and group randomization. Strength and limitations. Practical work using scientific articles from websites as an example.	LO3 LO4	IA 3.2 IA 4.1 IA 4.2 IA 4.3	2	8	TT	Vebinar in Zoom
	MIWT 5 Consultation for masters independent work carry out on MIW 3			2,3		Discussion	Vebinar in Zoom
10	Lecture 10. Bias and confounding factors in studies. Overview of epidemiological studies.	LO4 LO5	IA 4.3 IA 5.3	2		TT	Vebinar in Zoom
	Seminar 10. Bias and confounding factors in studies. Overview of epidemiological studies. Practical work using scientific articles from websites as an example.	LO4 LO5	IA 4.3 IA 5.3	2	8	TT	Vebinar in Zoom
	MIWT 6 Consultation for masters independent work carry out on MIW 3			2,3		Discussion	Vebinar in Zoom
	MIW 3. RCT.				50	ЖТ	SDO MOODLE
	Midterm exam				100		
Module III. Types of Epidemiology							
11	Lecture. 11 Diagnostic and screening tests. Sensitivity and specificity of tests.	LO5 LO6	IA 5.2 IA 5.3 IA 6.1 IA 6.2	2	8	TT	Vebinar in Zoom
	Seminar 11. Diagnostic and screening tests. Sensitivity and specificity of tests.	LO5 LO6	IA 5.2 IA 5.3 IA 6.1 IA 6.2	2	8	TT	Vebinar in Zoom

Week	Topic title	LO	IA	N. hours	Max. Scores	Type of assess.of education	Type of learning platform
	MIWT 6 Consultation for masters independent work carry out on MIW 4	LO1 LO4	IA 1.2 IA 4.1 IA 4.2 IA 4.3	2,3		Discussion	Vebinar in Zoom
12	Lecture 12. Epidemiological statistical methods. Meta-analysis.	LO6	IA 6.1 IA 6.2	2	8	TT	Vebinar in вебинар
	Seminar 12. Statistical methods in Epidemiology. Meta- Analysis. Practical work using scientific articles from websites as an example.	LO6	IA 6.1 IA 6.2	2	8	TT	Vebinar in Zoom
	MIW 4 on topics 11-12 classes.				50	IT	SDO MOODLE
13	Lecture 13. DEPTH model in Medicine. Implementation of epidemiologic studies in Medicine.	LO6	IA 6.1 IA 6.2	2			Vebinar in Zoom
	Seminar 13. DEPTH model in Medicine. Implementation of epidemiologic studies in Medicine. Practical work using scientific articles from websites as an example.	LO6	IA 6.1 IA 6.2	2	8	TT	Vebinal in ZOOM
14	Lecture 14. Exposure-Oriented Epidemiology.	LO2 LO3 LO5	IA 2.2 IA 2.3 IA 3.2 IA 5.1 IA 5.2	2		TT	Vebinar in Zoom
	Seminar 14. Exposure-Oriented Epidemiology: Occupational, Environmental, Nutritional, Radiation, Physical Activity Epidemiology.	LO2 LO3 LO5	IA 2.2 IA 2.3 IA 3.2 IA 5.1 IA 5.2	2	8	TT	Vebinar in Zoom
	MIWT 7 Consultation for masters independent work carry out on MIW 5			2,3		Discussion	Vebinar in Zoom

Week	Topic title	LO	IA	N.of Hours	Max. scores	Educat. Ass essment type	Type of platform
	MIW 5 – on topics 13-14 classes				50	IT	SDO MOODLE
15	Lecture 15. Outcome-Oriented Epidemiology.	LO2 LO3 LO5	IA 2.2 IA 2.3 IA 3.2 IA 5.1 IA 5.2	2		TT	Vebinar in Zoom
	Seminar 15. Outcome-Oriented Epidemiology: Infectious Disease Epidemiology, Cardiovascular Disease and Health, CancerEpidemiology, Epidemiology of Diabetes, Epidemiology of Psychiatric Disorders.	LO2 LO3 LO5	IA 2.2 IA 2.3 IA 3.2 IA 5.1 IA 5.2	2	8	TT	Vebinar in Zoom
MT 2					100		

Abbreviations: SEQ - questions for self-examination; ST - standard tasks; IT - individual tasks; Software - control work; MT - intermediate control.

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Chairman of Methodical Bureau _____ A.Ualliyeva

Head of chair _____ S.Mamyrbekova

Lecturer _____ F.Iskakova