MINISTRY OF HEALTH PROTECTION OF UKRAINE

ODESSA NATIONAL MEDICAL UNIVERSITY

Department of general and clinical epidemiology and biosafety

I APPROVE

Vice-rector for scientific and pedagogical work

_____ Eduard BURIACHKIVSKYI

September 1, 2023

WORK PROGRAM OF EDUCATIONAL DISCIPLINE
"SOCIAL MEDICINE, PUBLIC HEALTH AND FUNDAMENTALS OF EVIDENCE-BASED MEDICINE"

Level of higher education: second (master's)

Branch of knowledge: 22 "Health care"

Specialty: 221 "Dentistry"

Educational and professional program: Dentistry
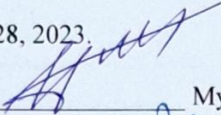
Odesa 2023 - 2024

The program was compiled on the basis of the educational and professional program "Dentistry", the training of specialists of the second (master's) level of higher education in the specialty 221 "Dentistry" of the field of knowledge 22 "Health care", approved by the Scientific Council of ONMedU, (protocol No. 8 of June 29, 2023 year).

Developers:
head of the department, Prof., Doctor of Medicine, M.I. Golubyatnykov
professors of the department, Doctor of Medicine, O. V. Bachynska, Doctor of Medicine K.O. Talalaev
assistants to prof.: PhD O.A. Melnyk, K.S. Hrytsenko

The work program was approved at the meeting of the department of general and clinical epidemiology and biosafety
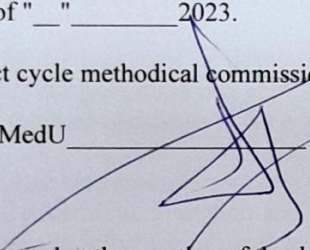Protocol No. 1 dated August 28, 2023.

Head of the department _____ Mykola GOLUBYATNYKOV

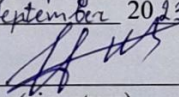Agreed with the guarantor of the OPP _____ Valery MARICHEREDA

The program was approved at the meeting of the subject cycle commission for medical and biological disciplines of ONMedU
Protocol No. ___ of "__"_____ 2023.

Head of the subject cycle methodical commission for medical and biological

disciplines of ONMedU_____ Anatoliy GULYUK

Reviewed and approved at the meeting of the department _of_ _general_ _and_ _clinical_ _epidemiology_ _and_ _biosafety_ _with_ _course_ _of_ _microbiology_ _and_ _virology_
Protocol No. _1_ of " _1_ " _September_ 20_23_

Head of the department _____ Mykola GOLUBYATNYKOV
　　　　　　　　　　　　　　(signature)　　　　　　　　　　　(First Name Surname)

Reviewed and approved at the meeting of the department _____
_____
Protocol No. ___ of "___" _____ 20__

Head of Department _____ _____
　　　　　　　　　　　　(signature)　　　　　　　　　(First Name Surname)

1. Description of the academic discipline:

Name of indicators	Field of knowledge, specialty, specialization, level of higher education	Characteristics of the academic discipline	
The total number of: Credits - 2.0 Hours - 60 Content subdivisions - 4	Branch of knowledge 22 "Health care" Specialty 221 "Dentistry" Level of higher education second (master's)	*Full-time education Mandatory*	
		A year of training	*2*
		Semester	*III*
		Lectures	*10*
		Practical	*30 hours*
		Seminary	*0 hours*
		Independent work	*20 hours*
		Including individual tasks	*0*
		Final control form	*test*

2. The purpose and tasks of the educational discipline, competences, program learning outcomes.

the purposestudy of an academic discipline"Social medicine, public health andthe basics of evidence-based medicine" are
- acquisition of the necessary knowledge, skills and competences related to research, analysis and assessment of population health indicators, organization, resource provision and activities of the health care system;
- assimilation of the methodology of development from the standpoint of evidence-based medicine, recommendations for the prevention and elimination of the harmful effects of factors and for improving the organization of medical assistance to the population, includingdental
Tasks:
-     mastering the basic concepts and concepts of evidence-based medicine and biostatistics;
-     assimilation of patterns of formation and methods of assessment of population health indicators, including dental, and the influence of medical and social, economic, environmental factors, conditions and lifestyle on it;
-     assimilation of theoretical bases and methods of evaluation of the health care system, organization of various types of medical care, incl. dental, ensuring its availability and quality;
-     mastering the principles, directions, tasks of the public health system, its functions, structure;
-     formation of knowledge on the scientific substantiation of recommendations for the prevention and elimination of unfavorable socio-economic and environmental factors and conditions for the health of the population,
-     mastering the principles of substantiation of health measures to improve the level of public health, promotion of dental health;
mastering the principles of developing measures to improve the quality of medical care, including dental

The process of studying the discipline is aimed at forming elements of the following competencies:
IC - Ability to solve typical and complex specialized tasks and problems in   protection industry health by   specialty "Dentistry", in professional activity orin the learning process, which involves research and/or innovation and is characterized by the complexity and uncertainty of conditions and requirements.

General (GC):
GC2. Knowledge   and   understandingobjective region and   understandingprofessional

activity.

GC3. Ability to apply knowledge in practical situations

GC6. Skills using informative communicationtechnologies.

GC9.Ability to identify, pose and solve problems.

GC10.The ability to be critical and self-critical.

GC13.The ability to act socially responsibly and consciously.

GC14.The ability to realize one's rights and responsibilities as a member of society, to realize the values of a civil (free democratic) society and the need for its sustainable development, the rule of law, the rights and freedoms of a person and a citizen in Ukraine.

GC15.The ability to preserve and multiply moral, cultural, scientific values and achievements of society based on an understanding of the history and patterns of development of the subject area, its place in the general system of knowledge about nature and society and in the development of society, technology and technologies, to use various types and forms of motor activity for active recreation and leading a healthy lifestyle.

Special (SC):

SC4.The ability to plan and carry out measures for the prevention of diseases of the organs and tissues of the oral cavity and maxillofacial region.

SC13.The ability to assess the impact of the environment on the state of health of the population (individual, family, population).

SC14.Ability to maintain regulatory medical documentation.

SC15.Processing of state, social and medical information.

SC17.Ability to legal software own professional activity.

Program learning outcomes (PLO):

PLO 14. Analyze and evaluate state, social and medical information using standard approaches and computer information technologies.

PLO 15. Assess the impact of the environment on the health of the population in termsmedical institution by standard methods.

PLO 16. To form goals and determine the structure of personal activity based on the result of the analysis of certain social and personal needs.

PLO 17. Follow a healthy lifestyle, use self-regulation and self-control techniques.

PLO 18. To be aware of and be guided in one's activities by civil rights, freedoms and duties, to raise the general educational cultural level.

PLO19. To comply with the requirements of ethics, bioethics and deontology in their professional activities.

PLO 20. To organize the required level of individual safety (own and the persons they care about) in case of typical dangerous situations in the individual field of activity.

As a result of studying the academic discipline, the applicant must:
know:

- definition of social medicine and public health as a science and subject of teaching, its significance for health care practice;
- theoretical and methodical foundations of biostatistics;
- basic organizational elements of statistical research;
- methodological foundations and criteria for choosing the main adequate methods of analysis for testing statistical hypotheses;
- theoretical and methodical bases of analysis of statistical results, their assessment and description in order to form reasonable conclusions
- peculiarities of interpretation of the concept of "health", indicators of population health;
- regularities in the formation of the demographic situation, its features in different countries;
- components of the medical and social significance of morbidity and methods of its study;

- classification of risk factors, assessment of their possible impact on public health;
- basic principles and types of medical assistance to the population, features of medical provision of various contingents of the urban and rural population;
- organization and content of the work of medical institutions and doctors of the main specialties;
be able:
- to determine the tactics of statistical research organization, experiment planning;
- to determine the necessary methods of statistical processing of research data;
- calculate statistical indicators, parameters of statistical aggregates;
- prevent, diagnose and correct statistical errors;
- determine the methods of graphical representation of the results of statistical analysis;
- evaluate and analyze statistical indicators and parameters of statistical aggregates;
- use applied methods of biostatistics for data analysis;
- determine and evaluate health indicators using appropriate statistical methods;
- to determine and analyze indicators of morbidity: general, infectious, hospitalized, for the most important socially significant diseases, with temporary loss of working capacity;
- to calculate and evaluate the performance indicators of dental institutions or departments and dentists.
Master the skills:
-conducting epidemiological and medical-statistical studies;

- processing and analysis of received social, statistical and medical information;

- calculation, assessment and analysis of statistical indicators;

- implementation of advocacy and communication in the field of public health using various communication channels and techniques;

- implementation of disease prevention measures among the population, including in cooperation with public health specialists;

3. Content of the academic discipline:

Unit1. "**Biostatistics**»
Topic 1. Social medicine and public health as a science. Evidence-based medicine, research methods and its significance for health care practice.
 ➤ Social medicine and public health is a science that studies the laws of public health and the system of its protection. The importance of social medicine for the formation of health care.
 ➤ History of development and methods of social medicine: statistical, demographic, historical, experimental, epidemiological, economic, sociological, methods of expert assessments, modeling, forecasting.
 ➤ Theory and practice of evidence-based medicine, basic principles of evidence-based medicine. Concept of clinical epidemiology. Classification of epidemiological studies. Evidence-based medicine and quality of clinical research.Biostatistics as the main component of the evidence-based medicine system. The main stages of the development of biostatistics.
Topic 2. Relative values. Graphic representation of statistical data.
 ➤ Concept of statistical indicators, their types, form of presentation. Absolute data, relative values, their practical significance. Intensity indicators and their components: general and special.
 ➤ Types of relative quantities (intensive, extensive, relative intensity, ratio, visibility), their calculation method and methodical bases of application for data analysis.
 ➤ Definition, method of calculation, meaning and application in the activity of a dentist.
 ➤ Concepts and types of structure of medical and biological data, structural changes, features of their analysis. Graphic images of medical and biological data.
Topic 3. Variation series. Average values.
 ➤ Variational series, their elements, characteristics and parameters.

- ➢ Average values in the doctor's activity, their types, practical significance, methods of calculation.
- ➢ The concept of variation, the variability of population parameters, assessment methods. Mean square deviation, coefficient of variation.
- ➢ The concept of laws of distribution, their types, characteristics.

Topic 4. Method of standardization. Analysis of dynamic series. Risk factors. Methodology for calculating risk indicators and their assessment.
- ➢ Method of standardization. The essence, significance and application of the method for identifying the influence of various risk factors on the health indicators of the population and the activities of medical and preventive institutions.
- ➢ Types of dynamics series. Basic rules of construction and analysis of dynamic series when studying the dynamics of medical and biological phenomena. The main indicators of dynamic series analysis. The main methods of processing a dynamic series in order to determine the trend. Interpolation and extrapolation in series of dynamics.
- ➢ Concept of risk factors. Risk indicators, methods of their calculation and analysis. Absolute, additional risk. Relative risk, additional population risk. Odds ratio.

Topic 5. Assessment of the probability of research results. Parametric and non-parametric criteria for assessing the probability of obtained results. Correlation-regression analysis.
- ➢ Parametric methods of assessing the probability of medical and biological research. Average error of mean and relative value, confidence interval. Estimation of the probability of difference: Student's criterion, calculation method, its evaluation, typical errors of use.
- ➢ The concept of non-parametric methods of assessing the reliability of statistical data. Interrelated and independent aggregates. Wilcoxon test. Xi-square goodness-of-fit criterion.
- ➢ Correlation-regression analysis of the relationships between factors and outcome measures in medical research.

Topic 6. Design, methods of collecting statistical material and organization of statistical research. Screening. Types of questionnaires, compilation method.
- ➢ Organization and stages of statistical research. Statistical research program. Purpose and plan of statistical research. Sources of statistical information.
- ➢ Methods of statistical research by time and degree of coverage. Methods of collecting statistical information. Concept of sample research. Object and unit of observation.
- ➢ Types of groupings. Types, rules of construction and filling of statistical tables.
- ➢ Methods of direct registration, copying and survey. Types of questionnaires and methods of their preparation. Types of questions.

Subsection 2. "Population health statistics"

Topic 7. Population health: study methodology and features of demographic processes.
- ➢ Targeted approaches to defining the concept of "health": general philosophical, individual theoretical, individual practical, population. Population health as a conditional statistical concept, its medical indicators: demographic (birth rate, mortality, average life expectancy); physical development; morbidity; disability
- ➢ Leading groups of factors that influence health indicators: the level and lifestyle of people, the state of the environment, biological factors, availability and quality of medical care.
- ➢ Subject and content of demography. The value of demographic data for characterizing population health and health care practice. Population statics and dynamics. Population censuses. Population aging, its medical and social significance.
- ➢ Main medico-demographic indicators: birth rate, total mortality, natural increase. The concept of average life expectancy.

Topic 8. Methods of calculation and assessment of reproductive health and demographic indicators: birth rate and mortality rate.
- ➢ Subject and content of demography. Number and composition of the population. Indicators of birth rate, total mortality, natural increase: calculation method and analysis.
- ➢ The concept of average life expectancy. Documents used to study the natural movement of the

population.

➢ Infant (toddler) mortality rates: neonatal, early neonatal, post-neonatal mortality; stillbirth, perinatal mortality. Methods of determining indicators. Factors affecting the formation of infant mortality levels.

Topic 9. General trends in population morbidity. Disability and physical development as indicators of population health.

➢ The concept of morbidity, the purpose of its study. Concept of epidemic and non-epidemic types of pathology. Medico-social significance of morbidity as a leading cause of temporary and permanent disability. The impact of morbidity on the needs of providing the population with medical care, on the health of future generations. Methods of studying morbidity, possibilities of using individual methods, their advantages and disadvantages.

➢ International statistical classification of diseases, injuries and causes of death, principles of its construction and significance. Types of morbidity studied in Ukraine. Discrepancies in the incidence of urban and rural populations, different age and gender groups.

➢ Disability of the population. Methods of studying and calculating indicators. Peculiarities of disability due to dental diseases.

➢ Physical development as an indicator of health. The role of the dentist in the study and assessment of biological and morpho-functional development.

Topic 10. Methods of studying population morbidity. Calculation and evaluation of indicators of general morbidity and its varieties.

➢ Types of morbidity, methods of studying morbidity, their advantages and disadvantages. Accounting and reporting documents for the study of morbidity, rules for filling them out. International statistical classification of diseases.

➢ Characteristics of the morbidity of the urban and rural population, different age and sex groups of the population. Study of morbidity based on requests for medical assistance. General morbidity: the method of determining the indicators of primary morbidity and prevalence of diseases, their assessment, regional features and dynamics.

➢ Medical and social aspects of the most important diseases. Diseases of the circulatory system, oncological, neuropsychiatric diseases, diabetes, tuberculosis, HIV infection/AIDS, trauma, alcoholism, drug addiction and toxic addiction as medical and social problems. Leading factors affecting these diseases. Dynamics of the main indicators. The importance of a comprehensive approach to reducing certain types of morbidity.

Subsection 3. "Organization of health care"

Topic 11. Healthcare systems. Main characteristics and organization of medical care.

➢ Comparative characteristics of health care systems in the world: state, insurance, private, mixed. Health care system in Ukraine. The content and directions of its reformation in modern conditions.

➢ Problems of the organization of outpatient polyclinic, inpatient, emergency and emergency care. The role of various medical and preventive institutions and their interaction in the provision of primary, secondary and tertiary care. Peculiarities of medical provision of different contingents of the population. Stages of providing medical care.

➢ Features of the health of women and children. Reproductive health and its planning, dynamics of its main indicators. Institutions of the maternity and childhood care system.

➢ Concept of quality and effectiveness of medical care, their criteria. Quality standards of medical care and medical technologies. Application of clinical protocols. Quality standards in the activity of dental institutions. Importance of licensing and accreditation of medical institutions to ensure proper quality of medical care.

Topic 12. Family medicine. Primary, secondary and tertiary medical assistance to the population.

➢ The essence of the concept of "primary medical care" (PMC). Principles of organizing PMC on the basis of family medicine. The role of the family doctor (general practice) in providing

medical needs of the population. Work models of a family doctor. The role of the dentist (family dentist) in the functioning of the Institute of Family Medicine.
- ➢ System of organization of provision of secondary (specialized) and tertiary (highly specialized) medical care to the urban and rural population. The structure, staff and activity of various types of medical and preventive facilities that provide the population with secondary and tertiary medical care.
- ➢ Evaluation of the effectiveness of the organization of providing assistance to different contingents of the population. Measures to improve the organization and operation of medical institutions of the second and third level of providing medical care.

Topic 13. Emergency and urgent medical assistance to the population. Emergency situations in health care.
- ➢ The organization of the emergency medical service (EMS), its institutions. Emergency medical care centers. Tasks of the station (department) of emergency medical aid (EMS) and its functions.
- ➢ Organization of EMC in rural areas. Interaction of the EMC service with various medical institutions. Points of emergency medical care.
- ➢ Emergency situations in health care. Disaster medicine. Actual problems of international health. Bioterrorism as a serious challenge and global threat to international health in the 21st century.

Topic 14. Organization of obstetric and gynecological care and medical care for children.
- ➢ Tasks and content of the work of the women's consultation and the maternity hospital, their structural divisions. Expert assessment of organizational elements of medical care for pregnant women. Interaction between women's consultations, children's polyclinics, children's homes.
- ➢ Tasks and content of the children's polyclinic and hospital, structural divisions. Preventive and anti-epidemic work of the children's polyclinic.
- ➢ Basic accounting documentation of maternity and childhood care institutions. Methods of calculation and analysis of indicators of their work. Measures to improve the activities of maternity and childhood care institutions. Perinatal centers.

Topic 15. Organization of medical care for the elderly. Palliative and hospice care.
- ➢ Assessment of the state of health of the elderly, its features. The main trends in the organization of geriatric care in the world and in Ukraine.
- ➢ Treatment and prevention institutions (units) and other institutions that provide medical and social assistance to the elderly in Ukraine.
- ➢ Palliative and hospice care: history and principles of development, medical and social significance.

Topic 16. Organization of medical examination of disability. Temporary and permanent loss of working capacity, method of calculating indicators.
- ➢ Tasks of attending physicians during examination of temporary disability. Medical Advisory Commission (MAC): functions, composition, organization of work. Reasons for temporary incapacity. Drawing up and procedure for issuing leaves of incapacity for work in certain types and cases of temporary incapacity for work.
- ➢ Causes of persistent incapacity. Disability groups. Medical and social expert commissions (MSEK), their types and functions. Methods of studying and calculating indicators of disability of the population. Structure of disability by causes and groups. Dynamics of disability. Peculiarities of disability due to dental diseases.

Subsection 4. "Organization of dental care"

Topic 17. Dental health of the population and organization of dental care.
- ➢ Characterization of the dental status of the population. Measurable dental health criteria. The role of biogeochemical provinces and the level of anthropogenic pollution in the epidemiology of dental diseases.
- ➢ Accounting and reporting documents for the study of dental morbidity, rules for their filling, indicators and indexes.

- ➢ Stages and specialization of dental care. Organization of dental care for the urban and rural population. Outgoing forms of providing dental care.
- ➢ Organization of dental care for pregnant women and children. Children's dental polyclinic (department), functions, structure, work analysis.

Topic 18. Promotion of dental health. Evidence-based prevention of dental diseases.
- ➢ The concept of "promotion of dental health" and its aspects (national, public, biotic, etc.).
- ➢ Types, directions and levels of prevention in stomatology (primary, secondary and tertiary). Section of preventive work of a dentist.
- ➢ Indices of caries and oral hygiene, inflammatory process of gums.

Topic 19. Institutions of dental care for the population. Analysis of the activity of a dentist and a dental polyclinic.
- ➢ The importance of the dental city (district) polyclinic in the system of medical assistance to the population, its tasks, functions, structure, work analysis.
- ➢ Content and organization of the work of dentists of the city (district) polyclinic. Preventive work of the city (district) dental polyclinic and dentist.

4. Structure of the academic discipline:

No	Names of topics	Total	Lectures	Practical training	Seminar classes	Independent work
				Including		
	Subsection 1. "Biostatistics"					
1	Social medicine and public health as a science.Evidence-based medicine, research methods and its significance for health care practice.	6	2	2	-	2
2	Relative values. Graphic representation of statistical data.	3	–	2	–	1
3	Variation series. Average values.	3	–	2	–	1
4	Method of standardization. Analysis of dynamic series. Risk factors. Methodology for calculating risk indicators and their assessment.	3	–	2	–	1
5	Assessment of the probability of research results. Parametric and non-parametric criteria for assessing the probability of obtained results. Correlation-regression analysis.	3	–	2	–	1
6	Design, methods of collecting statistical material and organization of statistical research. Screening. Types of questionnaires, compilation method.	3	–	2	-	1
	Subsection 2. "Population health statistics"					
7	Population health: study methodology and features of demographic processes.	3	2	–	–	1
8	Methods of calculation and assessment of reproductive health and demographic indicators: birth rate and mortality rate.	3	–	2	–	1
9	General trends in population morbidity. Disability and physical development as indicators of population health.	3	2	–	–	1
10	Methods of studying population morbidity. Calculation and evaluation of indicators of general morbidity and its varieties.	3	–	2	–	1
	Subsection 3. "Organization of health care"					
11	Healthcare systems. Main characteristics and organization of medical care.	3	2	–	–	1
12	Family medicine. Primary, secondary and tertiary medical assistance to the population.	3	–	2	-	1

13	Emergency and urgent medical assistance to the population. Emergency situations in health care.	3	–	2	-	1
14	Organization of obstetric and gynecological care and medical care for children.	3	–	2	–	1
15	Organization of medical care for the elderly. Palliative and hospice care.	3	–	2	-	1
16	Organization of medical examination of disability. Temporary and permanent loss of working capacity, method of calculating indicators.	3	–	2	–	1
	Unit "Organization of dental care"					
17	Dental health of the population and organization of dental care.	3	2	–	–	1
18	Promotion of dental health. Evidence-based prevention of dental diseases.	3	–	2	-	1
19	Institutions of dental care for the population. Analysis of the activity of a dentist and a dental polyclinic.	3	–	2	–	1
	Total hours	**60**	**10**	**30**	**0**	**20**
	ECTS credits – 2.0					

5. Topics of lectures / seminars / practical / laboratory classes

5.1 Topics of lectures:

No	Topic name	Number hours
1	Social medicine and public health as a science.Evidence-based medicine, its importance for health care practice.	2
2	Population health: study methodology and features of demographic processes.	2
3	General trends in population morbidity. Disability and physical development as indicators of population health.	2
4	Healthcare systems. Main characteristics and organization of medical care.	2
5	Dental health of the population and organization of dental care.	2
Total hours		**10**

5.2. Topics of seminar classes
Seminar classes are not provided.

5.3. Topics of practical classes:

No	Topic name	Number of hours
1	Social medicine and public health as a science.Evidence-based medicine, research methods and its significance for health care practice.	2
2	Relative values. Graphic representation of statistical data.	2
3	Variation series. Average values.	2
4	Method of standardization. Analysis of dynamic series. Risk factors. Methodology for calculating risk indicators and their assessment.	2
5	Assessment of the probability of research results. Parametric and non-parametric criteria for assessing the probability of obtained results. Correlation-regression analysis.	2
6	Design, methods of collecting statistical material and organization of statistical research. Screening. Types of questionnaires, compilation method.	2
7	Methods of calculation and assessment of reproductive health and demographic indicators: birth rate and mortality rate.	2
8	Methods of studying population morbidity. Calculation and evaluation of indicators	2

	of general morbidity and its varieties.	
9	Family medicine. Primary, secondary and tertiary medical assistance to the population.	2
10	Emergency and urgent medical assistance to the population. Emergency situations in health care.	2
11	Organization of obstetric and gynecological care and medical care for children.	2
12	Organization of medical care for the elderly. Palliative and hospice care	2
13	Organization of medical examination of disability. Temporary and permanent loss of working capacity, method of calculating indicators.	2
14	Promotion of dental health. Evidence-based prevention of dental diseases.	2
15	Institutions of dental care for the population. Analysis of the activity of a dentist and a dental polyclinic. Test.	2
Total hours:		**30**

6. Independent work of a student of higher education

NO s/p	TOPIC	Number of hours	type of control
1.	Preparation for seminars and practical classes - solving situational tasks, mastering test questions, preparing for presentations with essays, performing thematic presentations.	20	Current control at seminars and practical classes.
	TOTAL	**20**	

7. Teaching methods

Lectures.

Practical training: conversation, solving situational problems, practicing skills for working with medical documentation.

Independent work: independent work with the textbook, independent work with the bank of test tasks Step-1, independent solution of situational tasks.

8. Forms of control and assessment methods
(including criteria for evaluating learning outcomes)

Current control: oral survey, testing, assessment of performance of practical skills, solution of situational tasks, assessment of activity in class.

Final control: balance

Evaluation of the current educational activity in a practical session:

1. Evaluation of theoretical knowledge on the subject of the lesson:
- methods: survey, solving a situational problem;
- the maximum score is 5, the minimum score is 3, the unsatisfactory score is 2.
2. Evaluation of practical skills and manipulations on the subject of the lesson:
- methods: assessment of the correctness of the performance of practical skills
- the maximum score is 5, the minimum score is 3, the unsatisfactory score is 2.

The grade for one seminar session is the arithmetic average of all components and can only have a whole value (5, 4, 3, 2), which is rounded according to the statistical method.

Current assessment criteria for practical training:

Rating	Evaluation criteria
Perfectly	It is presented to the applicant when he shows deep, solid and systematic knowledge

"5"	in the scope of the curriculum, answers all questions without mistakes, reasonably formulates conclusions, using the materials presented for the independent work of the applicant, competently and consistently, with knowledge of the methodology, completed practical work ; using scientific terms and concepts correctly.
Fine "4"	The acquirer reveals the main content of the educational material; gives incomplete definitions of concepts; admits inaccuracies in the use of scientific terms, vaguely formulates conclusions, performed practical work, but made minor mistakes during the research.
Satisfactorily "3"	The applicant reproduces the basic educational material, but makes significant mistakes when presenting it, gives simple examples, definitions of concepts are insufficient, characterizes general issues of social medicine.
Unsatisfactorily "2"	The applicant discloses the content of the educational material fragmentarily, makes gross mistakes in the definition of concepts and when using terminology, did not complete the practical work.

Credit is given to the applicant who completed all tasks of the work program of the academic discipline, took an active part in practical classes, completed and defended an individual assignment and has an average current grade of at least 3.0 and has no academic debt.

Assessment is carried out in the last lesson before the beginning of the examination session (with the tape system of learning. The grade for the assessment is the arithmetic average of all components on a traditional four-point scale and has a value that is rounded up to 2 (two) decimal places according to the statistical method.

9. Distribution of points received by students of higher education

The obtained average score for the academic discipline for applicants who have successfully mastered the work program of the academic discipline is converted from a traditional four-point scale to points on a 200-point scale, as shown in the table:

Conversion table of a traditional assessment into a multi-point scale

Traditional four-point scale	Multipoint 200-point scale
Excellent ("5")	185 - 200
Good ("4")	151 - 184
Satisfactory ("3")	120-150
Unsatisfactory ("2")	Below 120

A multi-point scale (200-point scale) characterizes the actual success of each applicant in learning the educational component. The conversion of the traditional grade (average score for the academic discipline) into a 200-point grade is performed by the information and technical department of the University.

According to the obtained points on a 200-point scale, the achievements of the applicants are evaluated according to the ECTS rating scale. Further ranking according to the ECTS rating scale allows you to evaluate the achievements of students from the educational component who are studying in the same course of the same specialty, according to the points they received.

The ECTS scale is a relative-comparative rating, which establishes the applicant's belonging to the group of better or worse among the reference group of fellow students (faculty, specialty). An "A" grade on the ECTS scale cannot be equal to an "excellent" grade, a "B" grade to a "good" grade, etc. When converting from a multi-point scale, the limits of grades "A", "B", "C", "D", "E" according to the ECTS scale do not coincide with the limits of grades "5", "4", "3" according to the traditional scale. Acquirers who have received grades of "FX" and "F" ("2") are not included in the list of ranked acquirers. The grade "FX" is awarded to students who have obtained the minimum number of points for

the current learning activity, but who have not passed the final examination. A grade of "F" is assigned to students who have attended all classes in the discipline, but have not achieved a grade point average (3.00) for the current academic activity and are not admitted to the final examination.

Applicants who study in one course (one specialty), based on the number of points scored in the discipline, are ranked on the ECTS scale as follows:

Conversion of the traditional grade from the discipline and the sum of points on the ECTS scale

Evaluation on the ECTS scale	Statistical indicator
A	Top 10% achievers
B	The next 25% of earners
C	The next 30% of earners
D	The next 25% of earners
E	The next 10% of earners

10. Methodological support:
- Working program of the academic discipline
- Syllabus of the academic discipline
- Multimedia presentations
- Methodical developments for practical classes
- Electronic bank of test tasks by subdivisions of the discipline
- Tasks for current control of knowledge
- Tasks for final control of knowledge
- Methodical recommendations for independent work of higher education applicants
- Methodological developments for lectures

11. Questions for final control:
1. Social medicine and public health as a science. Methods of social medicine.
2. Targeted approaches to defining the concept of "health". Population health as a conditional statistical concept, its medical indicators.
3. Leading groups of factors affecting health indicators.
4. Disability of the population. Methods of studying and calculating indicators.
5. Physical development as an indicator of health.
6. The role of the dentist in the study and assessment of biological and morpho-functional development.
7. The concept of "promotion of dental health" and its aspects.
8. Types, directions and levels of prevention in dentistry. The essence of sanitary and educational work in dentistry.
9. Principles, tasks and methods of sanitary education in dentistry. Section of preventive work of a dentist.
10. Indices of caries and oral hygiene, inflammatory process of gums.
11. Biostatistics as the main component of the evidence-based medicine system, its significance for health care practice
12. Organization and stages of statistical research.
13. Object and unit of observation. Sources of statistical information.
14. Methods of statistical research by time and degree of coverage.
15. Methods of collecting statistical information. Types of questionnaires, compilation method.
16. Types, rules of construction and filling of statistical tables.
17. Relative values: definition, method of calculation, meaning and application in the activity of a dentist.
18. Graphic images of medical and biological data.
19. Variational series, their elements, characteristics and parameters.
20. Average values in the doctor's activity, their types, practical significance, methods of calculation.
21. The concept of variation, the variability of population parameters, assessment methods.

22. Methods of assessing the probability of medical and biological research (parametric).
23. Average error of mean and relative value, confidence interval.
24. Estimation of the probability of difference: Student's criterion, calculation method, its evaluation.
25. The concept of non-parametric methods of assessing the reliability of statistical data.
26. Dynamic series. Definition, types and analysis of dynamic series.
27. Standardization method: essence and meaning.
28. Correlation-regression analysis of the relationships between factors and outcome measures in medical research.
29. Screening. Methodology for assessing the sensitivity and specificity of screening tests
30. Risk factors. Methodology for calculating risk indicators and their assessment
31. Subject and content of demography. Population statics and dynamics. Population censuses.
32. Indicators of birth rate, total mortality, natural increase. The concept of average life expectancy.
33. Infant (toddler) mortality, its causes. Neonatal mortality, stillbirth, perinatal mortality, causes.
34. The concept of morbidity, the purpose of its study.
35. Methods of studying morbidity, possibilities of using individual methods, their advantages and disadvantages.
36. International statistical classification of diseases.
37. Types of morbidity studied in Ukraine.
38. Medical and social aspects of the most important diseases.
39. Health care system in Ukraine. Principles and organization.
40. Organization of primary medical care on the basis of family medicine.
41. Organization of secondary and tertiary care.
42. Organization of inpatient care for the population, availability of beds for the population, levels of hospitalization. Hospital district. Analysis of hospital activity.
43. Peculiarities of medical provision of the rural population.
44. Organization of obstetric and gynecological care. Reproductive health of women.
45. Organization of medical care for children.
46. Organization of medical care for the elderly. Hospice and palliative care.
47. Emergency medical assistance.
48. Concept of quality and effectiveness of medical care, their criteria. Quality standards in the activity of dental institutions.
49. Examination of temporary disability: the tasks of treating doctors, medical advisory commission (MCA).
50. Types of temporary incapacity for work, Procedure for issuing and extending leaves of incapacity for work in case of various types of incapacity for work.
51. Examination of permanent incapacity. Medical and social expert commissions (MSEK).
52. Groups and causes of disability. Organization of rehabilitation of the disabled.
53. Characterization of the dental status of the population. Dental health criteria.
54. Organization of outpatient polyclinic dental care for the city population. The structure and tasks of the city (district) dental polyclinic
55. Inpatient care for dental patients. Dental department of the regional (central city) multidisciplinary hospital, main tasks, organizational structure.
56. Peculiarities of the organization of dental care for the rural population. Outgoing forms of providing dental care.
57. Organization of dental care for pregnant women and children. Children's dental polyclinic (department), functions, structure, work analysis.
58. Public health service in Ukraine, its tasks and activity content.
59. Theoretical foundations of management. Laws, principles and management methods.
60. The purpose and tasks of the World Health Organization (WHO), its structure, forms of activity.

12. Recommended literature

Main:
1. Biostatistics for the Biological and Health Sciences, Global Edition, 2nd edition 2018, Pearson Education Ltd, ISBN:9781292229461-
2. Oxford Textbook of Global Public Health, 6 edition. Edited by Rogers Detels, Martin Gulliford, Quarraisha Abdool Karim and Chorh Chuan Tan. - Oxford University Press, 2017. - 1728 p.

Additional:
1. Public health: textbook for students. higher med. education institutions - Kind. 3 - Vinnytsia: "New Book", 2013. - 560 p.
2. Board Review in Preventive Medicine and Public Health. Gregory Schwaid. - ELSEVIER., 2017. - 450
3. Medical Statistics at a Glance Text and Workbook. Aviva Petria, Caroline Sabin. - Wiley-Blackwell, 2013. - 288 p.
4. Donaldson's Essential Public Health, Fourth Edition. Liam J. Donaldson, Paul Rutter - CRC Press, Taylor&Francis Group, 2017 - 374 p.
5. Jekel's epidemiology, biostatistics, preventive medicine and public health. Fourth edition. David L. Katz, Joann G. Elmore, Dorothea MG Wild, Sean C. Lucan. - ELSEVIER., 2014. - 405 p.
6. Oxford Handbook of Public Health Practice, Fourth Edition. Charles Guest, Walter Ricciardi, Ichiro Kawachi, Iain Lang. - Oxford University Press, 2012. - 656 p.
7. Primer of Biostatistics, Seventh Edition. Stanton A. Glantz - McGraw-HillEducation, 2012. - 320 p.

13. Electronic information resources
- World Health Organization www.who.int
- Cochrane Center for Evidence-Based Medicine www.cebm.net
- Cochrane Library www.cochrane.org
- US National Library of Medicine - MEDLINE www.ncbi.nlm.nih.gov/PubMed
- Canadian Center for Evidence in Health Care www.cche.net
- Center for Disease Control and Prevention www.cdc.gov
- Public Health Center of the Ministry of Health of Ukraine www.phc.org.ua
- Ukrainian database of medical and statistical information "Health for all": http://medstat.gov.ua/ukr/news.html?id=203
- British Medical Journal www.bmj.com
- Journal of Evidence-Based Medicine www.evidence-basedmedicine.com