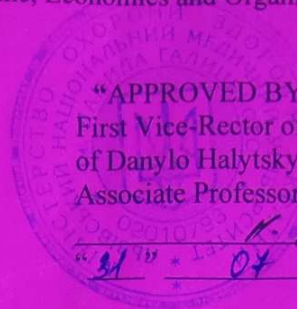


DANYLO HALYTSKY LVIV NATIONAL MEDICAL UNIVERSITY

Department of Social Medicine, Economics and Organization of Health Care



"APPROVED BY"

First Vice-Rector of Scientific and Pedagogical Work  
of Danylo Halytsky Lviv National Medical University  
Associate Professor SOLONYNKO I.I.

*[Signature]*  
"31" \* 04 2023

**EDUCATIONAL PROGRAM OF DISCIPLINE  
"SOCIAL MEDICINE, PUBLIC HEALTH"  
(Content module 2. Public health)**

OK 33.1

**preparation of the 4-year students of the second (master`s) level of higher education,  
branch of knowledge 22 "Health care",  
specialty 222 "Medicine"**



Discussed and approved  
at the methodical meeting of the department  
of Social medicine, economics and  
organization of Health care  
Danylo Halytsky LNMU  
(minute No 8 dated 13 June 2023)

Head of the department  
Associate Professor *[Signature]* T. G. GUTOR

Approved by  
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of Preventive medicine  
Danylo Halytsky LNMU  
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## INTRODUCTION

Educational program on educational discipline "**Social medicine, public health (module 2 "Public health")**" in accordance with  
Educational and professional program "*Medicine*"  
Standard of higher education of the *second (master's) level*  
field of knowledge 22 "*Health*"  
specialty 222 "*Medicine*"

### Description of academic discipline (Annotation)

Academic discipline «Social medicine, public health» (module 2 «Public health») requires mastering:

- *Statistics of population's health based on the analysis* of the complex of medical indexes: demographic, morbidity, disablement, physical development;
- *Healthcare organization*, i.e. the activity of system directed towards provision of preservation /saving, strengthening, recovering health of the population, including organization of medical care and public health system.

Structure of educational discipline	Number of credits, hours				Year of study semester	Type of control
	Total	Auditory		IWS		
		Lectures (hours)	Practical lessons (hours)			
«Social medicine, Public health» (module 2 «Public health»)	3 credits / 90 hours	8	37	45	IV year (7 - 8 semester)	Exam

**The subject of academic discipline** is: modern principles of Evidence-based medicine, theoretical and methodical basis of biostatistics, regularities/laws of population's health, system of healthcare, its organization and economics.

### Interdisciplinary connections

The discipline «Social medicine, public health» (module 2 «Public health») as academic discipline:

- Is based on studying by students such academic disciplines as: history of medicine, computer science, ethics, hygiene and ecology, epidemiology, sociology and medical, basis of economic theories;
- Lays the foundation of studying organization of medical and diagnostic, and also an assessment of its content/extent and quality when studying clinical disciplines;
- Provides study of legal and organizational principles of healthcare;
- Promotes the formation of preventive direction of future doctor's activity considering possible impact of factors of different origin on the health of population, assessment of risks during development of complex medical-social measures in interaction with Public health;
- Promotes the formation of economic world outlook and basic competently features/characteristics regarding methodology of economic analysis of the activity of medical institutions in modern conditions.

## 1. PURPOSE AND OBJECTIVES OF ACADEMIC DISCIPLINE

**1.1 The purpose of studying** of the discipline «Social medicine, public health» (module 2 «Public health») is training of specialists, who would have owned a sufficient amount of knowledge, skills and obtained competency regarding the exploration/research, analysis and assessment of population's health indexes, organization, resource provision and activity of health care system, development of recommendations regarding prevention and elimination of harmful influence of factors on health, from the standpoint of evidence-based, and improvement of organization of medical care to the population and public health system.

**1.2 The main objectives** of studying academic discipline «Social medicine and health care organization» are:

- ✓ Mastering the methods of determination, analysis and assessment of the main population's health indexes according to certain criteria and in interaction with factors, that affect/influence it;
- ✓ Mastering principles of establishing measures aimed at saving and strengthening the health of population and its certain contingents;
- ✓ Mastering theoretical basis, modern principles, laws, legal bases and strategic directions of public health development;
- ✓ Mastering basis of organization of medical care, principles of assessment an organization and quality of provision of various types of medical care to the population in conditions of reforming the health care branch;
- ✓ Formation of knowledge regarding examinations of disability, its kinds/types, an order of organization and actions of medical workers/specialists concerning certain situations of disability examinations.

### **1.3 Competencies and studying results**, formed by comprehension of the discipline.

According to requirements of the standard, the discipline provides the acquisition by students such competencies:

#### **- General competences (GC)**

- GC-1 – Ability to abstract thinking, analysis and synthesis.
- GC-2 – Ability to learn and master modern knowledge.
- GC-3 – Ability to apply knowledge in practical situations.
- GC-4 – Knowledge and understanding of the subject area and understanding of professional activity.
- GC-5 – Ability to adapt and act in a new situation.
- GC-6 – Ability to make informed decisions.
- GC-7 – Ability to work in a team.
- GC-8 – Ability to interpersonal interaction.
- GC-9 – Ability to communicate in a foreign language.
- GC-10 – Ability to use information and communication technologies.
- GC-11 – Ability to search, process and analyze information from various sources.
- GC-12 – Definiteness and perseverance in terms of tasks and responsibilities.
- GC-13 – Awareness of equal opportunities and gender issues.
- GC-14 – The ability to exercise their rights and responsibilities as a member of society, to be aware of the values of civil (free democratic) society and the need for its sustainable development, the rule of law, human and civil rights and freedoms in Ukraine.
- GC-15 – Ability to preserve and multiply moral, cultural, scientific values and achievements of society based on understanding the history and patterns of development of the subject area, its place in the general system of knowledge about nature, society and in the development of society, techniques and technologies. active recreation and leading a healthy lifestyle, use different types and forms of physical activity for active recreation and a healthy lifestyle-

#### **- Special (professional, subject) competences (PC)**

- PC-1 – Ability to collect medical information about the patient and analyze clinical data.
- PC-11 – Ability to solve medical problems in new or unfamiliar environments with incomplete or limited information, taking into account aspects of social and ethical responsibility.
- PC-13 – Ability to carry out sanitary and hygienic, preventive measures.
- PC-14 – Ability to plan and carry out preventive and anti-epidemic measures against infectious diseases.
- PC-15 – Ability to conduct an examination of working capacity.
- PC-16 – Ability to keep medical records, including electronic forms.
- PC-17 – Ability to assess the impact of the environment, socio-economic and biological determinants on the health state of the individual, family, population.
- PC-18 – Ability to analyze the activities of a doctor, subdivision, health care institution, ensure the quality of medical care and improve the efficiency of the use of medical resources.
- PC-19 – Ability to organize and integrate the provision of medical care to the population and the marketing of medical services.
- PC-20 – Ability to conduct epidemiological and medical-statistical studies of public health; processing of social,

economic and medical information.

PC-21 – Clearly and unambiguously convey their own knowledge, conclusions and arguments on health care issues and related issues to specialists and non-specialists, in particular to students.

PC-22 – Ability to manage workflows, in the field of health care, which are complex, unpredictable and require new strategic approaches

PC-23 – Ability to develop and implement scientific and applied projects in the field of health care.

PC-24 – Adherence to ethical principles when working with patients, laboratory animals.

PC-25 – Adherence to professional and academic integrity, to be responsible for the accuracy of the obtained scientific results

- **Digital competences**

Detailing of competencies according to NQF descriptors in the form of "Competence Matrix"

**Matrix of competences**

<b>№</b>	<b>Competence</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Communication</b>	<b>Autonomy and responsibility</b>
		<b>Kn1</b> - Critical understanding of problems in the field and on the border of fields of knowledge	<b>S1</b> - Ability to solve problems in new or unfamiliar environments with incomplete or limited information, taking into account aspects	<b>C1</b> - Use of foreign languages in professional activity	<b>AR1</b> - Responsibility for contributing to professional knowledge and practice and / or evaluating the results of activity of teams and collectives
		<b>Kn2</b> - Specialized conceptual knowledge, which includes modern scientific achievements in the field of professional activity or field of knowledge and is the basis for original thinking and conducting research	<b>S2</b> - Ability to integrate knowledge and solve complex problems in broad or multidisciplinary contexts	<b>C2</b> - Clear and unambiguous communication of own knowledge, conclusions and arguments to specialists and non-specialists, in particular to students	<b>AR2</b> - Managing work or learning processes, which are complex, unpredictable and require new strategic approaches
			<b>S3</b> - Specialized problem-solving skills/abilities required for conducting researches and / or innovative activity in order to develop new knowledge and procedures		<b>AR3</b> - Ability to continue studies with a high degree of autonomy
1	Ability to collect medical information about the patient and analyze clinical data.	Kn1	S1	C1	AR1
2	Ability to solve medical problems in new or unfamiliar environments with incomplete or limited information, taking into account aspects of social and ethical responsibility	Kn1	S1	C2	AR1
3	Ability to carry out sanitary and hygienic, preventive	Kn1	S2	C2	AR1

	measures				
4	Ability to plan and carry out preventive and anti-epidemic measures against infectious diseases.	Kn1	S1	C2	AR1
5	Ability to conduct an examination of working capacity	Kn1	S3	C2	AR2
6	Ability to keep medical records, including electronic forms	Kn1	S3	C2	AR2
7	Ability to assess the impact of the environment, socio-economic and biological determinants on the health state of the individual, family, population.	Kn1	S1	C2	AR2
8	Ability to analyze the activities of a doctor, subdivision, health care institution, ensure the quality of medical care and improve the efficiency of the use of medical resources	Kn1	S1	C2	AR2
9	Ability to organize and integrate the provision of medical care to the population and the marketing of medical services	Kn1	S2	C2	AR2
10	Ability to conduct epidemiological and medical-statistical studies of public health; processing of social, economic and medical information	Kn1	S2	C2	AR1
11	Clearly and unambiguously convey their own knowledge, conclusions and arguments on health care issues and related issues to specialists and non-specialists, in particular to students.	Kn1	S1	C1	AR1
12	Ability to manage workflows, in the field of health care, which are complex, unpredictable and require new strategic approaches	Kn1	S1	C2	AR1
13	Ability to develop and implement scientific and applied projects in the field of health care	Kn1	S1	C1	AR3
14	Adherence to ethical principles when working with patients, laboratory animals.	Kn2	S2	C2	AR2
15	Adherence to professional and academic integrity, to be responsible for the accuracy of the obtained scientific results	Kn1	S2	C1	AR3

***Program learning outcomes (PLO)***, the formation of which is facilitated by the discipline:

PLO-1 – Have a thorough knowledge of the structure of professional activity. Be able to carry out professional activities that require updating and integration of knowledge. To be responsible for professional development, ability to further professional training with a high level of autonomy.

PLO-2 – Understanding and knowledge of basic and clinical biomedical sciences, at a level sufficient to solve professional problems in the field of health care.

PLO-3 – Specialized conceptual knowledge, which includes scientific achievements in the field of health care and is the basis for researches, critical understanding of problems in the field of medicine and related interdisciplinary problems.

PLO-15 – Organize the provision of medical care, medical and evacuation measures to the population and servicemen in the conditions of emergency situations and military operations, taking into account the field conditions.

PLO-16 – To form rational medical routes of patients; to organize interaction with colleagues in their own and other institutions, the organizations and establishments; to apply tools for the promotion of medical services on the market, based on the analysis of the needs of the population, in the conditions of functioning of the health care institution, its subdivision, in a competitive environment.

PLO-18 – Determine the state of functioning and limitations of a person's life and duration of incapacity for work with the execution of the relevant documents, in the conditions of the health care facility on the basis of data on the disease and its course, features of professional activity of a person, etc. Maintain medical records of the patient and the population on the basis of regulatory documents.

PLO-19 – Plan and implement a system of anti-epidemic and preventive measures for the occurrence and spread of diseases among the population.

PLO-20 – Analyze the epidemiological state and carry out measures of mass and individual, general and local prevention of infectious diseases.

PLO-21 – Search for the necessary information in the professional literature and databases of other sources, analyze, evaluate and apply this information.

PLO-22 – Apply modern digital technologies, specialized software, statistical methods of data analysis to solve complex health care problems.

PLO-23 – Assess the impact of the environment on state of human health to assess the incidence state of the population.

PLO-24 – Organize the necessary level of individual safety (own and persons cared for) in case of typical dangerous situations in the individual field of activity.

PLO-25 – Clearly and unambiguously convey their own knowledge, conclusions and arguments on health care issues and related issues to professionals and non-specialists.

PLO-26 – Manage workflows in the field of health care, which are complex, unpredictable and require new strategic approaches, organize the work and professional development of staff based on acquired skills of effective teamwork, leadership positions, proper quality, accessibility and fairness, ensuring the provision of integrated health care assistance.

PLO-27 – Communicate fluently in the state and English languages, both orally and in writing to discuss professional activities, researches and projects.

PLO-28 – Make effective decisions on health care issues, assess resources, take into account social, economic and ethical implications.

PLO-29 – Plan, organize and conduct activities for the specific prevention of infectious diseases, in accordance with the National Calendar of preventive vaccinations, both mandatory and recommended. Manage vaccine residues, organize additional vaccination campaigns, including immunoprophylaxis measures.

### **Learning outcomes:**

Integrative final program learning outcomes, the formation of which is facilitated by the discipline: acquisition of knowledge, skills and acquisition of competencies for evaluating the activities of the health care system, institutions, departments or health professionals; identifying and eliminating negative factors influencing their work, as well as developing measures to improve the organization and improve the activities of professionals and health care facilities.

## **2. INFORMATION SCOPE OF THE DISCIPLINE**

The study of the discipline "Social Medicine, Public Health" is given 3 credits, 90 hours.

### **Topic 1. Reform in health care system. Family medicine. The role of the family physician**

## **in the fight against acute respiratory disease COVID-19 caused by the coronavirus SARS-CoV-2. Digital transformation of health care**

Reform in healthcare system: definition of the term, driving forces. Directions and conditions of successful medical branch reform. Healthcare model of Ukraine: main characteristics and problems. Strategic documents, that determine the ways of reforming the national health care system, stages and measures. Reforming of service provision, financing, management, training of personnel in the national health care system. Monitoring of morbidity and diseases prevalence. Diagnosis of health of local communities, detection of gaps, inequalities in health, needs for action planning. Strategic leadership: definition, main/key principles. Vectors of development. Nationwide approach. Principle of participation of the whole society. Strategic planning of public health services, politics planning and monitoring of its execution/realization.

### **Topic 2. Public health, functions and services. The European experience of digital transformation. Key documents of WHO concerning digitization of health care in the European region**

Public health as a science and subject of teaching. Main terms and definitions, history of creation of public health care system. Main operative functions of public health. Main services of public health. Modern development of public health system in Ukraine and in the world. Public health infrastructure.

### **Topic 3. The main legislative principles of healthcare and the organization of medical care to the population of the Ukraine**

The right for health care as an integral part of social rights. System of legal provision of health care in Ukraine. Branches of law, with which relations arise in realization of the right for health care. Normative-legal legislation of Ukraine on health care issues. Reflection of health issues in the codes of Ukraine (civil, economic and other.). Constitution of Ukraine (1996) (p. 3, 27, 49). Law of Ukraine “On ensuring the sanitary and epidemic well-being of the population” (1994) (p. 26, 27, 28). Law of Ukraine: «On amendments to the basics of the health care legislation of Ukraine on improving the provision of medical assistance» (2011) (p. 15, 34, 35, 35-1, 35-2, 35-3, 35-4, 35-5, 38, 39, 39-1, 42, 43, 44).

### **Topic 4. Goals and content of the work of Public Health Center of the Ministry of Health of Ukraine. Role in the control of acute respiratory disease COVID-19 caused by coronavirus SARS-CoV-2**

Information technologies in world’s health care system. Tasks and content of Public health center’s work. Terminological standards and rubricates. Complex automatization of medical Institutions. Electronic document flow. Electronic patient card.

### **Topic 5. Analysis and assessment of factors, that affect population’s health**

Risk factors classification, that affect health. Methodical approaches to studying factors, that determine health levels of population and its contingents. Specifics of studying factors’ influence: social-economic, social-biological, ecological, natural-climatic and medical-organizational. Application of biostatistics methods (derivative and average values, standardization method, correlation-regression analysis, parametric and non-parametric estimation/assessment of probability of research results, point score, rating score). Indicators of Population health assessment system of WOH (Summary Measures of Population Health): indicator of life expectancy, adjusted for disability– DALE (disability – adjusted life expectancy); indicator of life expectancy, adjusted for health – HALE (health – adjusted life expectancy).

### **Topic 6. Population’s health: main determinants. The concept of the e-Health system of Ukraine. Conceptual foundations of development of the Ukrainian e-Health system.**

Goal approaches to definition of the term «health»: individual theoretical, individual practical, population. Population’s health as a conditional/conventional statistical concept. Methods of studying health. Population’s health indexes: demographic (birth-rate, mortality rate, average life expectancy); index of physical development; index of morbidity; index of disability. Leading groups of factors, that



influence population's health: rate and way of people's lives, the state of the environment, biologic factors, availability and quality of medical care. Health peculiarities of different gender-age and professional groups of the population. Public health strategies towards health preservation.

**Topic 7. Analysis and assessment of the main demographic processes of the population. Methodology of analysis and evaluation of infant mortality rates**

Documents, used in studying population's natural movement. The order of birth registration in Ukraine. Essence of terms «livebirth», «stillbirth», «death of the fetus». Methods of determination and assessment of the general and special birth-rate indexes. General mortality. The order of deaths registration in Ukraine. Methods of studying mortality, determination of general and special indexes, their value/meaning and assessment. Structure of mortality causes. Natural increase of population. Population quantity changes. Mechanical and natural population movement. Depopulation. Analysis of regional features and demographic indexes' dynamics. Assessment of demographic situation. The value of studying age composition of the population. Type of age structure of the population (progressive, regressive, stationary) and its changes. «Age pyramid». Gender disproportion: reasons and consequences. Urbanization of the population as a social-economic problem.

Procedure for registration of infant mortality. Methods for determining the indicators of general, neonatal, early neonatal, late neonatal, postneonatal infant mortality. Estimation of the ratio of infant mortality and neonatal mortality. Perinatal mortality. Leading causes of infant mortality at different ages of the first year of life. The main groups of factors influencing the formation of infant mortality rates (biological, environmental, medical and organizational, lifestyle).

**Topic 8. Analysis and assessment of indexes of general morbidity. Development of the e-Health system, its methodological and technical architecture**

Study of morbidity according to the data of medical care requests. Methods of determination of primary morbidity and disease prevalence indexes, their assessment. Dynamics of general and primary morbidity indexes, their regional peculiarities.

**Topic 9. Morbidity of the population as a medical and social problem. Informational ecosystem of the e-Health system of Ukraine**

The concept of morbidity, the purpose of its study, features in Ukraine and the world. Medico-social significance of morbidity as a leading cause of temporary and permanent disability, mortality. The impact of morbidity on the needs of the population in providing medical care, on the health of future generations. Economic costs associated with the disease, including with the incidence of socially significant and dangerous diseases. Methods of studying morbidity, the possibility of applying certain methods, their advantages and disadvantages. Factors influencing the completeness of data on morbidity depending on the methods of its study. International statistical classification of diseases, injuries and causes of death, principles of its construction and significance. Types of morbidity studied in Ukraine. Differences in morbidity rates of urban and rural populations, different age and gender groups. Disability as an indicator of public health, its medical and social significance.

**Topic 10. Analysis and assessment of indexes of infectious morbidity. Medical information systems as an ingredient of the ESHC**

Study of morbidity: observation unit, accounting papers, rules for filling them out. Methods of determination of the indexes of primary morbidity and disease prevalence, their assessment, regional peculiarities. Dynamics of general morbidity indexes. Peculiarities of accounting of infectious morbidity. Accounting papers, rules for filling them out. Methods of determination of specified types of morbidity, their assessment, regional peculiarities. Dynamics of infectious morbidity indexes.

**Topic 11. Analysis and assessment of indexes of socially significant and hospitalized morbidity. International Classification of Functioning, Disability and Health**

Study of morbidity: observation unit, accounting papers, rules for filling them out. Methods of determination of the indexes of primary morbidity and disease prevalence, their assessment, regional

peculiarities. Dynamics of general morbidity indexes. Peculiarities of accounting of socially significant and hospitalized morbidity. Accounting papers, rules for filling them out. Methods of determination of specified types of morbidity, their assessment, regional peculiarities. Dynamics of socially significant, hospitalized morbidity indexes.

**Topic 12. The value of the main socially significant diseases, including acute respiratory disease COVID-19 caused by coronavirus SARS-CoV-2**

Diseases of cardiovascular system, oncologic, neuro-psychic, diabetes, tuberculosis, HIV-infection /AIDS, traumatism, alcoholism, addiction and substance abuse as medical-social problems. Leading causes, that influence disease prevalence. Dynamics of the main indexes. Traumatism, as a medical-social problem, types of traumatism, record of cases, dynamics of indexes, age and gender peculiarities in different world regions and in Ukraine.

**Topic 13. Organization and content of the work of outpatient clinics**

Goals and divisions of polyclinics activity, its structural subunits. Staff standards. Functions of the main subunits. Organization and content of the work of district therapist, head of the department. Types of preventive inspections, their organization. Main documents, that are used for accounting of polyclinic subunit's work, content and order of their filling. Methods of calculation and analysis of polyclinic activity indexes based on the report data of therapeutic and prophylactic institution (f. № 20), report on disease prevalence, registered among patients, that live in the district/area of service of the therapeutic and prophylactic institution (f. № 12). Development of measures towards polyclinic and outpatient clinic's activity improvement.

**Topic 14. Organization and content of the work of family doctor. The e-Health system (the electronic system of health care (ESHC))**

. The role of family doctor/general practitioner in provision of medical needs of urban or rural population. Models of family doctor's work, their concept, the problems of choosing specific models. Reform of primary medical care in Ukraine.

**Topic 15. Family medicine and its meaning in the system of medical assistance to the population. Other information and communication systems of the e-Health: information and analytical system «Central 103», information and analytical system “MedData”, electronic system of management of stocks of medicines and medical products “eStock”, information complex of blood system, electronic integrated monitoring system of diseases**

Organization of family doctor's work on conditions of its execution/realization on the basis of different models. Functions and concept of family doctor's work concerning preventive, diagnostic, therapeutic measures, solving different medical-social problems of the family. Organization of cooperation between family doctors, paramedic service and social workers. The main accounting documentation of institutions, that work on the basis of family medicine. Determination and assessment of indexes of family doctors' work.

**Topic 16. Organization of the palliative and hospice care to the population and the perspective of its development**

Organization of palliative and hospice care to urban and rural population, perspectives of its development. Place and role of family doctor. Essence and specialties of medical-social provision of elderly population. Theoretic basis, modern principles of palliative and hospice medicine. Generalization of obtained knowledge of PHC and interpretation of its use in future professional activity. History of gerontology and geriatrics. Age-based classification of the population. Medical-social importance of population's aging. The influence of aging of the population on demographic load, population's morbidity rate and its need in medical provision. Peculiarities of the health state of elderly people, methods of determination and assessment of indexes. Geriatric care provision system in Ukraine (outpatient-clinical, stationary institutions). The need of geriatric care, purpose and perspectives of its development. Geriatrician: functions and purpose. Geriatric education. Cooperation between geriatric

care institutions and family medicine structures.

### **Topic 17. Organization and content of the work of inpatient institution and inpatient replacement institution**

In-patient hospitals' tasks. Structural subunits of hospitals and its functions. The order of referral of patients to in-patient hospitals. Content and organization of the work of resident doctor and head of the department. Factors, that influence the rational use of the bed fund and efficiency of in-patient hospital. The main documentation, that is used for accounting of the work of in-patient hospital, content and order of its filling. Methods of calculating and analysis of in-patient hospitals' work according to the report of the health care facility (ф. № 20). Types of inpatient replacement institution. Tasks, structure of the day hospital. Functions of the day-hospital and hospital at home. The order of patients' referral to day-hospital and hospital at home. The main accounting documentation of the day-hospital and hospital at home, the order of its filling. Methods of calculation and analysis of hospital at home and day-hospital's activity indexes. Development of measures towards improvement of day-hospitals and inpatient replacement institution activity.

### **Topic 18. Organization of obstetric-gynecological care**

Tasks and concept of gynecologic work, its structural subunits. Functions of different medical institutions concerning antenatal fetal protection. Expert's assessment of organizational elements of medical provision of pregnant women and women with gynecological diseases. Tasks, concept of maternity hospital's work, peculiarities of its structure, cooperation with women's counseling, children's polyclinics, orphanages. Main accounting documentation of maternity hospitals. Concept and order of its filling, opportunities of its use. Methods of calculation and analysis of indexes of maternity houses' work based on the report about medical care to pregnant, parturient and women in child-birth (f. № 21). Development of measures towards maternity houses' work improvement.

### **Topic 19. Emergencies in Public health branch, including during martial law**

Global threats to international health in 21th century. Emergency situations in the sphere of public health: consequences of climate change, epidemics, mass chemical damages, radiation catastrophes. International safety in the sphere of public health. Role of WHO in organization of notifications and quick responses in emergencies. Concept of international health, actual problems of international health on the example of Europe region. Bioterrorism – global threat to international health. Biological weapon. Strategy of public health system towards reducing the risks of biological weapon use and its negative consequences.

### **Topic 20. Medical-social problems of mother and child protection. Family-oriented medicine**

Place and role of motherhood and childhood protection services in reproduction of generations. Maternity and childhood protection legislation. Gender equality. Peculiarities of women and children's health. Reproduction health, dynamics of its indexes. The value of social-economic, social-psychologic, medical-social measures, aimed at women and children's health improvement. Types of institutions providing various types of care (therapeutic-prophylactic, sanative, disciplinary). Women's health centers. Therapeutic-prophylactic institutions providing obstetric and gynecological care, peculiarities of their formation in conditions of urban and rural localities. Organization of therapeutic-prophylactic care to children, peculiarities of providing specialized care. State and regional programs of women and children's health improvement, the value of complexity in their realization. National program «Nation's reproductive health».

### **Topic 21. Organization of medical care to child population. Family-oriented medicine in the context of providing medical care to children**

Population's health indexes. Main informational sources when studying population's health. Health criteria and groups. Complex assessment of individual health. Health quality assessment. Complex assessment of population's health. Integral indexes of complex assessment of population's

health: population's vitality coefficient; index of human development.

### **Topic 22. Organization and content of work of institutions of maternity and childhood protection**

Maternity and childhood protection systems. Reproductive health, dynamics of its main indexes. Characteristic of child population's health. The value of social-economic, social-psychologic, medical-social measures aimed at women's and children's health improvement. Therapeutic -prophylactic institutions providing obstetric-gynecological care, peculiarities of their formation in conditions of urban and rural locality; their organization and concept. Perinatal center. Women's counseling. Maternity hospitals. Stages of providing medical care to children. Complex assessment of children's health. Institutions, that provide medical care to children, their structure and functions. Main sections of the work of pediatrician, general practitioner. Healthy child office. Individual preparation of children for entering school or pre-school institution. Infectious morbidity of children and organization of preventive vaccination. State of immune-prophylaxis in Ukraine. Organization of specialized medical care to children. Organization of medical care in pre-school and school institutions. Orphanages, state of their contingent's health.

### **Topic 23. Normative and legal provision of ethical and deontological principles in medicine**

Definition of the concepts of "ethics" and "medical ethics". Concepts of "deontology", "medical deontology". The main sections of medical deontology. The main postulates of the Hippocratic oath. Requirements for a modern doctor. International official documents regulating the work of a doctor. The main meaning of the Geneva Declaration for doctors. Domestic official documents regulating the work of a doctor.

### **Topic 24. Organization of communication between doctors, patients and their families**

Peculiarities of communication in the medical environment. Communicative qualities of doctors: flexibility of communication, empathy, reflexivity. Algorithms of professional communication between a doctor and a patient, a patient's family, in a medical environment (with colleagues). Factors affecting the establishment and maintenance of contact with the patient and the formation of his commitment to treatment. Tactics and strategy in typical situations of medical and diagnostic interaction. Ways of preventing and overcoming medical conflicts. Organization of the doctor's working hours from the standpoint of time management. Ways and means of preventing professional maladjustment and emotional burnout.

### **Topic 25. Methodology of communication training for medical workers. Medical and other information systems as the instruments of automation and control at health care providers**

The influence of corporate ethics on the activities of medical workers. Communicative culture during the provision of medical services. Models of communication between the doctor and the patient. Effective response to emotional manifestations of the interlocutor. Professional burnout. Communication with "problem" patients.

### **Topic 26. Organization and content of the work of emergency medical service, including during martial law**

Organization of the work of emergency medical service, including during martial law. Structure of EMC stations and sub-stations of the big city. Types of field crews, their composition, functions including during martial law. Calls and field trips of field crews: main reasons. Organization of EMC in a rural area. Cooperation of EMC service with different medical institutions. Accounting documents of EMC stations, determination and analysis of their activity indexes. EMC and catastrophes medicine centers. Structure, staff, tasks and main functions. Tasks of emergency medical care (EMC) stations (departments) and its functions. Activity indexes of the service. The value of emergency medical care service.

### **Topic 27. Organization of disability examination. The main legislative and legal issues of**

## **disability and rehabilitation. Evidence-based rehabilitation**

Work incapacity certificate as a source of information for studying morbidity with temporary disability. Indexes: number of cases and days of disability for 100 employees, average duration of the case. Depth study of employees' morbidity depending on standing/experience, profession, work conditions. Peculiarities of carrying out medical-social disability examination and its legal principles. Tasks of carrying out various types of medical examinations, authorities and institutions, that are carrying it out. Types of medical examinations, their tasks. Essence of medical-social examination of temporary and permanent disability. Degrees of disability. Determination and assessment of disability indicators. General issues of rehabilitation. Tasks, purpose and principles of rehabilitation. Types, stages and periods of rehabilitation. Legal bases of medical rehabilitation. Principles and means of medical rehabilitation. Patient as an object of medical and social rehabilitation Features of rehabilitation programs for various diseases. Concept and meaning of the law «On rehabilitation of disabled in Ukraine». Tasks of doctors, therapeutic-advisory commissions concerning permanent disability examination. Medical-social expert commissions (MSEC), their types (based on administrative-territorial feature, or profiles). Functions of MSEC. Concept, purpose and order of filling out the main permanent disability documents, that are used when carrying out the examination. Determination and assessment of MSEC tactics concerning establishment of the cause and groups of disability in its certain cases. Determination and assessment of disability indexes.

### **Topic 28. Organization and methods of medical examination of disability**

Features of the examination of medical and social disability and their legal basis. The purpose of conducting various types of medical examination, bodies and institutions that carry it out. Types of medical examinations, their tasks. The essence of medical and social examination of temporary and permanent disability. Degrees of disability.

### **Topic 29. Design of health care system in the context of family-oriented medicine. Basic information of two-level architecture of the e-Health system (ESHC) of Ukraine**

Implementation of a family-oriented approach at all levels of health care. Principles of family-oriented medicine. Sharing complete and unbiased information between families and health professionals. Recognition and respect for cultural, ethnic, racial, spiritual, social, economic, educational and geographic diversity. Interactions with families. Flexibility and accessibility of the health care system in response to family needs.

### **Topic 30. Examination of temporary disability in healthcare institutions**

Tasks of doctors when carrying out temporary disability examination. Therapeutic-advisory commission (TCC): functions, composition, organization of work. Concept, purpose and order of filling out accounting documents, that are used when carrying out temporary disability examination. The value of work incapacity certificate as an accounting, juridical and financial document. Determination of tactics of different officials of therapeutic-prophylactic institutions concerning particular types and cases of temporary disability. Arranging work incapacity certificate in certain types and cases of temporary disability. Peculiarities of carrying out medical-social disability examination and its legal principles. Essence of medical-social temporary disability examination. Degrees of disability. Institutions, that carry out temporary disability examination, their tasks. Peculiarities of carrying out the examination in certain types of disability.

### **Topic 31. Assessment of the quality of medical care to the population**

Main conceptions and terms of medical care quality. Quality components: structural quality; quality of technology; quality of results. Methods of quality assessment. Requirements to the methods: suitability for use in different stages and types of medical care, objectivity, possibility of quantitative assessment, correct reflection of the essence of medical activity. Indexes of quality and efficiency of medical care. Standards of medical care quality concerning clinical-statistical groups, nosological groups. Standards of medical technology. Application of medical protocols. Medical-economic standards. Intermediate and long-term indicators/indexes of medical care quality. The value of licensing

and medical institutions' accreditation for provision of proper medical care quality. The value of expert assessments to characterize the components of medical-diagnostic process. Organization of carrying out expert assessment of the activity of medical institutions, their subunits and medical personnel. Development of questionnaires for assessment of different types of medical activity. Methods of determination the treatment quality level, models of final results, integral efficiency coefficient. The essence of expert assessments of population's satisfaction with health care. Methods of carrying out medical-social research, its value for development of efficient control system.

**Topic 32. Basic principles of patient-centered and family-centered care. Central database of the ESHC**

Patient-oriented strategy. Respect for the patient's values and beliefs. Coordination and integration of care. Information, communication, training. Physical comfort, pain reduction. Emotional support, reduction of fear. Involvement of family and friends. Continuity and continuity of care. Timely and barrier-free access.

**Topic 33. Methods and means of hygiene education of the population**

The value of healthy lifestyle formation for preservation and strengthening of population's health. Leading factors of lifestyle, that affect/influence population's health state. Directions of healthy lifestyle formation. Health care institutions, agencies and services, that take part in formation of healthy lifestyle of community or person. Goals and concept of health center's work, their cooperation with health care institutions. Main directions of medical-hygienic education in various health care institutions. Methods and means of medical-hygienic education of the population, their peculiarities. Development of questionnaires for studying different factors, that influence population's health state. Development of lectures plan and preparation of relevant theses. Efficient representation of health data. Traditional forms of data representation in the form of diagram or tables. Visualization of data by means of modern technologies: infographics, animation, interaction. Forms of representation: posters, leaflets, booklets, presentations, films.

**Topic 34. Preventive technologies in public health services. Functions and users of the ESHC**

Methods and measures of medical-hygienic education of the population, their peculiarities in different health care institutions. Definition of terms «health promotion», «healthy lifestyle», «prevention/prophylaxis». Types of prophylaxis. The value of healthy lifestyle formation for preservation and strengthening population's health. Leading factors of lifestyle, that influence population's health state. Directions of healthy lifestyle formation. Development of questionnaires for studying different factors, that influence population's health state. Development of lectures plan. The value of communication in health preservation and strengthening issues. Forms of communication. The value of connection with publicity and mass media. Problems and possible mistakes. Press-release in public health – an important form of reporting medical information to general public: rules of assembly and use.

**3. STRUCTURE OF EDUCATIONAL DISCIPLINE**

№	Topic	Lectures	Practical classes	IWS	Individual tasks
1	Reform in health care system. Family medicine. The role of the family physician in the fight against acute respiratory disease COVID-19 caused by the coronavirus SARS-CoV-2. Digital transformation of health care	2	-	-	-
2	Public health, functions and services. The European experience of digital transformation. Key documents of WHO concerning	-	-	3	-

	digitization of health care in the European region				
3	The main legislative principles of healthcare and the organization of medical care to the population of the Ukraine	2	-	-	-
4	Goals and content of the work of Public Health Center of the Ministry of Health of Ukraine. Role in the control of acute respiratory disease COVID-19 caused by coronavirus SARS-CoV-2	-	-	3	-
5	Analysis and assessment of factors, that affect population's health	-	2	-	-
6	Population's health: main determinants. The concept of the e-Health system of Ukraine. Conceptual foundations of development of the Ukrainian e-Health system.	-	-	3	-
7	Analysis and assessment of the main demographic processes of the population. Methodology of analysis and evaluation of infant mortality rates.	-	2	-	-
8	Analysis and assessment of indexes of general morbidity. Development of the e-Health system, its methodological and technical architecture	-	2	-	-
9	Morbidity of the population as a medical and social problem. Informational eco-system of the e-Health system of Ukraine	-	-	3	-
10	Analysis and assessment of indexes of infectious morbidity. Medical information systems as an ingredient of the ESHC	-	2	-	-
11	Analysis and assessment of indexes of socially significant and hospitalized morbidity. International Classification of Functioning, Disability and Health	-	2	-	-
12	The value of the main socially significant diseases, including acute respiratory disease COVID-19 caused by coronavirus SARS-CoV2	-	-	3	-
13	Organization and content of the work of outpatient clinics	-	2	-	-
14	Organization and content of the work of family doctor. The e-Health system (the electronic system of health care (ESHC))	-	2	-	-
15	Family medicine and its meaning in the system of medical assistance to the population. Other information and communication systems of the e-Health: information and analytical system «Central 103», information and analytical system "MedData", electronic system of management of stocks of medicines and medical products "eStock", information complex of blood system, electronic integrated monitoring system of diseases	-	-	3	-
16	Organization of the palliative and hospice care to the population and the perspective of its development. Basic registers of the country and spheres of health care	-	-	3	-
17	Organization and content of the work of inpatient institution and inpatient replacement institution	-	2	-	-
18	Organization of obstetric-gynecological care	-	2	-	-
19	Emergencies in Public health branch, including during martial law.	-	-	4	-
20	Medical-social problems of mother and child protection. Family-oriented medicine	2	-	-	-
21	Organization of medical care to child population. Family-oriented medicine in the context of providing medical care to children	-	2	-	-
22	Organization and content of work of institutions of maternity and childhood protection.	-	-	4	-
23	Normative and legal provision of ethical and deontological principles in medicine	-	2	-	-
24	Organization of communication between doctors, patients and their	-	2	-	-

	families				
25	Methodology of communication training for medical workers. Medical and other information systems as the instruments of automation and control at health care providers	-	-	4	-
26	Organization and content of the work of emergency medical service, including during martial law.	-	2	-	-
27	Organization of disability examination. The main legislative and legal issues of disability and rehabilitation. Evidence-based rehabilitation	2	-	-	-
28	Organization and methods of medical examination of disability	-	2	-	-
29	Design of health care system in the context of family-oriented medicine. Basic information of two-level architecture of the e-Health system (ESHC) of Ukraine	-	-	4	-
30	Examination of temporary disability in healthcare institutions	-	3	-	-
31	Assessment of the quality of medical care to the population	-	3	-	-
32	Basic principles of patient-centered and family-centered care. Central database of the ESHC	-	-	4	-
33	Methods and means of hygiene education of the population	-	3	-	-
34	Preventive technologies in public health services. Functions and users of the ESHC	-	-	4	-
	<b>Total hours 90/3,0 credits ECTS</b>	<b>8</b>	<b>37</b>	<b>45</b>	<b>0</b>
	<b>Final control</b>	<b>Exam</b>			

#### 4. THEMATIC PLAN OF LECTURES

№	Topic of the lecture	Number of hours
1.	Reform in health care system. Family medicine. The role of the family physician in the fight against acute respiratory disease COVID-19 caused by the coronavirus SARS-CoV-2. Digital transformation of health care	2
2.	The main legislative principles of healthcare and the organization of medical care to the population of the Ukraine	2
3.	Medical-social problems of mother and child protection. Family-oriented medicine	2
4.	Organization of disability examination. The main legislative and legal issues of disability and rehabilitation. Evidence-based rehabilitation	2
<b>Total</b>		<b>8</b>

#### 5. THEMATICAL PLAN OF PRACTICAL CLASSES

№	Name of the topic	Number of hours
1.	Analysis and assessment of factors, that affect population's health	2
2.	Analysis and assessment of the main demographic processes of the population. Methodology of analysis and evaluation of infant mortality rates.	2
3.	Analysis and assessment of indexes of general morbidity. Development of the e-Health system, its methodological and technical architecture	2
4.	Analysis and assessment of indexes of infectious morbidity. Medical information systems as an ingredient of the ESHC	2
5.	Analysis and assessment of indexes of socially significant and hospitalized morbidity. International Classification of Functioning, Disability and Health	2
6.	Organization and content of the work of outpatient clinics.	2



7.	Organization and content of the work of family doctor. The e-Health system (the electronic system of health care (ESHC))	2
8.	Organization and content of the work of inpatient institution and inpatient replacement institution	2
9.	Organization of obstetric-gynecological care	2
10.	Organization of medical care to child population. Family-oriented medicine in the context of providing medical care to children	2
11.	Normative and legal provision of ethical and deontological principles in medicine	2
12.	Organization of communication between doctors, patients and their families	2
13.	Organization and content of the work of emergency medical service, including during martial law	2
14.	Organization and methods of medical examination of disability	2
15.	Examination of temporary disability in healthcare institutions	3
16.	Assessment of the quality of medical care to the population	3
17.	Methods and means of hygiene education of the population	3
<b>Total</b>		<b>37</b>

## 6. THEMATICAL PLAN INDEPENDENT WORK OF STUDENTS

№	Topic	Hours	Type of control
1	Public health, functions and services. The European experience of digital transformation. Key documents of WHO concerning digitization of health care in the European region	3	Current control
2	Population's health: main determinants. The concept of the e-Health system of Ukraine. Conceptual foundations of development of the Ukrainian e-Health system.	3	Current control
3	Morbidity of the population as a medical and social problem. Informational eco-system of the e-Health system of Ukraine	3	Current control
4	The value of the main socially significant diseases, including acute respiratory disease COVID-19 caused by coronavirus SARS-CoV-2	3	Current control
5	Goals and content of the work of Public Health Center of the Ministry of Health of Ukraine. Role in the control of acute respiratory disease COVID-19 caused by coronavirus SARS-CoV-2	3	Current control
6	Family medicine and its meaning in the system of medical assistance to the population. Other information and communication systems of the e-Health: information and analytical system «Central 103», information and analytical system «MedData», electronic system of management of stocks of medicines and medical products «eStock», information complex of blood system, electronic integrated monitoring system of diseases	3	Current control
7	Organization of the palliative and hospice care to the population and the perspective of its development. Basic registers of the country and spheres of health care	3	Current control
8	Emergencies in Public health branch, including during martial law.	4	Current control
9	Organization and content of work of institutions of maternity and childhood protection.	4	Current control
10	Design of health care system in the context of family-oriented medicine. Basic information of two-level architecture of the e-Health system (ESHC) of Ukraine	4	Current control
11	Basic principles of patient-centered and family-centered care. Central database of the ESHC	4	Current control
12	Methodology of communication training for medical workers.	4	Current control

	Medical and other information systems as the instruments of automation and control at health care providers		
13	Preventive technologies in public health services. Functions and users of the ESHC	4	Current control
	<b>Total</b>	<b>45</b>	

## 7. INDIVIDUAL TASKS

Individual tasks. To every topic of practical classes and to every topic of independent student's work an individual situational task is provided. Evaluation of ISW is carried out by the teacher in a form of «passed» or «failed».

## 8. METHODS OF EDUCATION

1. Verbal methods: lecture, conversation, telling, explanation, working with literature.
2. Visual methods: illustration, demonstration, observation.
3. Practical methods: situational tasks, independent work, exploratory work.
4. Interactive methods: discussion, working in small groups, brainstorm, case-method, business game.

## 9. METHODS OF CONTROL

Types of control: current and final.

Form of final control: exam.

**10. CURRENT CONTROL:** is carried out at every practical class according to certain goals of the topic, and also during teacher's individual work with the student on the topics, that are studied by the student independently as they are not included into practical class's structure.

*10.1 Evaluation of current educational activities.* During the assessment of mastering each topic for the current educational activity of the student, grades are set on a 4-point (traditional) scale, taking into account the approved criteria for assessing the discipline. This takes into account all types of work provided by the curriculum. The student must receive a grade on each topic. Forms of assessment of current educational activities are standardized and include control of theoretical and practical training. Traditional scales are converted into points.

**11. FORM OF FINAL CONTROL (credit)** is carried out upon completion of the module at the last practical lesson. Students who have completed all types of work provided for in the curriculum and scored at least the minimum number of points in the discipline are admitted to the final control.

**Final control** (exam) is carried out upon completion of the semester according to the schedule of the educational part of the university. Students are allowed to exam, if they got credit/passed in educational discipline.

Semester exam is carried out in writing during the exam session, according to the schedule. The form of exam is standardized and includes control of theoretical and practical training.

### Methods of carrying out semester exam.

Semester exam in the discipline «social medicine, public health» (module 2«public health») is taken by 4<sup>th</sup> year students upon the completion of the study of the discipline during 3<sup>rd</sup> and 4<sup>th</sup> years.

The exam consists of 2 parts, and is carried out in written form in the classroom of the department namely:

- First part – students answer 50 test situational anchor tasks “Step - 2”.
- Second part – answer:
  - 1) Questions of lecture material
  - 2) Theoretical questions on practical topics
  - 3) Situational task with calculation of statistical indexes and their interpretation or filling out a work incapacity certificate
  - 4) Graphical representation of statistical values according to the situational task or coding the diagnosis according to ICD-10.

## 12. SCHEME OF ACCOUNTING AND DISTRIBUTION OF POINTS, THAT STUDENTS RECEIVE

**Type of control** – current and final.

**Form of final control** according to educational plan– exam

### Evaluation criteria:

A) **Current control** is carried out at every practical class according to certain goals of the topic, during teacher's individual work with the student on the topics, that are studied by the student independently as they are not included into practical class's structure, where objective or standardized control of theoretical and practical training of students is applied.

**Assessment of current educational activity.** During the assessment of the mastering of every topic for current educational activity students are graded on a four-point scale student (traditional) considering approved assessment criteria of the discipline. This takes into account all types of work, provided by curriculum/educational program. Student must obtain an assessment of each topic. Forms of assessment of current educational activity are standardized and include control of theoretical and practical training.

Given on a traditional scale grades are converted into points.

**The maximum number of points** that a student can collect for current educational activity in the semester for admission to the exam is 120 points.

**The minimum number of points** that a student can collect for current educational activity in the semester for admission to the exam is 72 points

**Calculation of points** is based on student's grades received based on a traditional scale while learning subjects by calculating the arithmetic mean (AM), rounded to two decimal places. The resulting value is converted into points by multi-scale as follows:

$$x = \frac{AM \times 120}{5}$$

For convenience, a conversion chart on 200-point scale is provided:

### Conversion of average grade for current educational activity into 200-point scale for disciplines, that end with an exam

4-point scale	200-point scale
5	120
4.95	119
4.91	118
4.87	117
4.83	116
4.79	115
4.75	114
4.7	113
4.66	112
4.62	111
4.58	110
4.54	109
4.5	108

4- point scale	200- point scale
4.45	107
4.41	106
4.37	105
4.33	104
4.29	103
4.25	102
4.2	101
4.16	100
4.12	99
4.08	98
4.04	97
3.99	96
3.95	95

4- point scale	200- point scale
3.91	94
3.87	93
3.83	92
3.79	91
3.74	90
3.7	89
3.66	88
3.62	87
3.58	86
3.54	85
3.49	84
3.45	83
3.41	82

4- point scale	200- point scale
3.37	81
3.33	80
3.29	79
3.25	78
3.2	77
3.16	76
3.12	75
3.08	74
3.04	73
3	72
Less 3	Not enough

*Student's independent work is assessed during current control of the topic at the relevant practical class. Mastering the topics, that are meant for only student's independent work are assessed at the final control.*

### B) Final (semester) control – exam is a form of final control

Final control is carried out with the goal of assessing the results of study at the separate final stage of the educational qualification level on the national scale and ECTS. Final control includes semester control and student's attestation.

### Assessment criteria and distribution system of exam points

**The maximum number of points**, that a student can collect when passing an exam is 80.

**The minimum number of points**, that a student can collect when passing an exam is not less than 50.

#### Part 1 of test paper

Student's answer results	Test control grade
0-73 %	0 points
74-79 %	12 points
80-89 %	18 points
90-100 %	24 points

#### Part 2 of test paper

Student's answer results	Points for 1 answer / task
Absent / wrong answer	0 points
Partial answer	8 points
Complete/full answer	14 points

#### Examples of assessment variants of test paper results

<i>Structure of test paper</i>	<i>Variants of answer results</i>		
Knowledge test control	12 points	18 points	24 points
Lecture material questions/ legislative framework	8 points	8 points	14 points
Theoretic questions on the topics of practical classes	8 points	8 points	14 points
A situational task for the purpose of checking acquired skills and abilities: a situational task with the calculation of statistical indicators and their interpretation	8 points	14 points	14 points
A situational task for the purpose of checking the acquired skills and abilities: a conclusion based on the results of a statistical study (probability of the difference between indicators / correlation / standardization)	14 points	14 points	14 points
<b>Total</b>	<b>50 points</b>	<b>62 points</b>	<b>80 points</b>

#### **Determination of number of points, that a student collected in the discipline**

Grade in the discipline is determined as a sum of points for current educational activity (not less than 72) and points for exam (not less than 50).

Points are converted regardless of discipline both in ECTS scale, and a 4-point (national) scale. Score ECTS scale 4-point scale is not converted and vice versa.

Scores of students are enrolled in one specialty, taking into account the number of points gained in the discipline ranked on a ECTS scale as follows:

Assessment ECTS	Statistical index
A	Top 10 % students
B	Next 25 % students
C	Next 30 % students
D	Next 25 % students
E	The last 10 % of students

Points in the discipline for students, that successfully completed the program are converted into traditional four-point scale with absolute criteria, stated in the table:

Points in the discipline	Grade on the 4-point scale
From 170 to 200 points	5
From 140 to 169 points	4
From 139 points to the minimal number of points, that a student must collect	3
Less than the minimal number of points, that a student must collect	2

Grade on the ECTS is not converted into traditional, because ECTS and 4-point scale are independent.

Objectivity of assessment of student's educational activity is reviewed by statistical methods (correlation coefficient between ECTS grade and grade on the national scale).

### **13. METHODOLOGICAL PROVISION**

- Theoretical questions to the topics of practical classes
- Theoretical questions for final control
- Tasks for current knowledge control
- Tasks for final knowledge control
- Tasks list for independent work
- Lecture notes
- Methodological developments for practical classes
- Methodological developments for student's independent control

### **14. REFERENCES**

#### **Basic**

1. Gruzeva T.S., Lekhan V.M., Ognev V.A., Galienko L.I., Kryachkova L.V., Palamar B.I., Grechishkina N.V., Litvynova L.O., Gutor T.G. [etc.]. Biostatistics: a textbook for the training of specialists of the second (master's) level of higher education / edited by Prof. T.S. Gruzeva. Vinnytsia: New Book, 2020. 384 p.

2. The public health: textbook for students of higher educational establishments. Vinnytsia: «New book/Nova Knyha », pub. 3. 2013. 560 p.

3. Workshop for preparation for practical classes in the academic discipline "Public Health". Lviv, 2020.

4. Jekel's Epidemiology, Biostatistics, Preventive Medicine, and Public Health: With Student Consult. Joann G. Elmore, Dorothea Wild, Heidi D. Nelson, David L. Katz. Elsevier; 5th edition. 2020. 464 p.

5. Oxford Textbook of Global Public Health, 6 edition. / Edited by Roges Detels, Martin Gulliford, Quarraisha Abdool Karim and Chorh Chuan Tan. Oxford University Press, 2018. 1728 p.

#### **Additional**

1. Brigitte Baldi, David S. Moore Practice of Statistics in the Life Sciences Fourth Edition. W. H. Freeman; Fourth edition. 2018. 768 p.

2. Board Review in Preventive Medicine and Public Health. Gregory Schwaid. Elsevier, 2017. 450 p.

3. Liam J. Donaldson, Paul Rutter. Donaldson's Essential Public Health, Fourth Edition. CRC Press, Taylor&Francis Group, 2017. 374 p.

### **15. INFORMATION RESOURCES**

The Legislation of Ukraine. The electronic resource: [zakon.rada.gov.ua/](http://zakon.rada.gov.ua/)

The medical legislation of Ukraine. The electronic resource: <http://mozdocs.kiev.ua/>

The statistical data of Ukraine. The electronic resource: <http://www.ukrstat.gov.ua/>

The statistical data of the Lviv region. The electronic resource: <https://www.lv.ukrstat.gov.ua/>

The center of public health WHC of Ukraine (Ministry of Health of Ukraine): <https://phc.org.ua/>

The Ukrainian database of medico-statistical information «Health for all»: <http://medstat.gov.ua/ukr/news.html?id=203>

The World Health Organization [www.who.int](http://www.who.int)

The European Regional Bureau of WHO [www.euro.who.int/ru/home](http://www.euro.who.int/ru/home)

The Kokhranivsky centre of evidence-based medicine: [www.cebm.net](http://www.cebm.net)

The Kokhranivsky library [www.cochrane.org](http://www.cochrane.org)

The National medical library of the USA – MEDLINE PubMed [www.ncbi.nlm.nih.gov/PubMed](http://www.ncbi.nlm.nih.gov/PubMed)

The Canadian evidence-based centre of public care [www.cche.net](http://www.cche.net)

The Centre of control and disease prevention [www.cdc.gov](http://www.cdc.gov)

The Journal British Medical Journal [www.bmj.com](http://www.bmj.com)

The Journal Evidence-Based Medicine [www.evidence-basedmedicine.com](http://www.evidence-basedmedicine.com)