



Educational Institution
"Royal Metropolitan University"
Quality Management System
Syllabus of the discipline "Public Health with Medical statistics"
Specialty 560004 "Dentistry" EI "RMU"

**Educational Institution "Royal Metropolitan University"
department "Morphological and Fundamental disciplines"**



SYLLABUS

in the discipline "**Public Health with Medical statistics**"
for students of specialty **560004 "Dentistry"**


Form of study	full-time
Course	2
Semester	4
Credit	4
Total credits according to the curriculum	2
Total hours according to the curriculum	60
Lectures	18
Practical classes	18
Independent work	24

Syllabus developer:
Derkembaeva A.K.


Reviewed and approved at a meeting of the
department of "Morphological and Fundamental
disciplines"

Protocol No. 1 from "9" September 2024.

Head of the department PhD Jalilova A.A.


(signature)

Bishkek 2024

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Title and labor intensity of the discipline

Course	Semester	Weeks	Total academic hours		Number of hours for independent work		Total hours	Number of modules
			Lecture	Practical classes	SIW	SIWT		
2	4	18	18	18	12	12	60	2

Annotation of Academic Discipline

Public Health and Healthcare with Medical statistics is an academic discipline that studies the organization, functioning, and development of health systems; the promotion of health and prevention of diseases; and the socio-environmental factors that influence the health of populations. It addresses strategies for managing healthcare services and programs to improve the quality and accessibility of care.

The purpose of the discipline:

The purpose of the course is to prepare students in the theory and practice of public health, focusing on the identification, assessment, and resolution of health issues at the population level. Emphasis is placed on equipping students with skills to design, implement, and evaluate health programs, policies, and interventions to promote health equity and optimize health outcomes. This preparation ensures readiness for professional activities in public health and healthcare management.

Learning objectives:

1. To teach students the principles of epidemiology and biostatistics for assessing population health;
2. To acquire basic practical skills necessary for evaluating health determinants and healthcare systems;
3. To educate students in the design and implementation of disease prevention and health promotion programs;
4. To study public health emergencies and teach appropriate responses and crisis management strategies;
5. To recognize the relationship between environmental, socioeconomic, and behavioral factors and health outcomes;
6. To identify health disparities and develop strategies to address them;
7. To teach students about healthcare systems organization and financing;



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8. To explore the relationship between health policies, governance, and health outcomes.

After mastering the discipline of Public Health and Healthcare, the student:

Will know:

the structure and functions of public health organizations at local, national, and international levels;

principles of health promotion, disease prevention, and health education;

sanitary and epidemiological standards for healthcare organizations and public health activities;

the ethical and legal aspects of public health practice;

the roles and responsibilities of public health professionals in addressing population health issues.

Will understand:

the methods and tools used for assessing health risks and outcomes in populations;

the impact of social determinants and health policies on population health;

principles of planning and managing healthcare resources effectively.

Will be able to use:

epidemiological and statistical methods for analyzing health data;

tools and strategies for developing public health programs;

methods for assessing and improving the quality of healthcare services.

Will be able to carry out:

health needs assessments and community health diagnoses;

monitoring and evaluation of public health interventions;

coordination of intersectoral collaboration to address public health issues.

Will be able to analyze:

the health status of populations using quantitative and qualitative data;

trends in disease prevalence, health disparities, and healthcare accessibility;

the effectiveness of health promotion campaigns and interventions.

Will be able to assess:

the quality and efficiency of healthcare services;

the adequacy of health policies and programs in meeting population health needs;

the impact of environmental and occupational factors on health.



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Contents of the academic discipline

№	Name sections and topics disciplines (lectures and practical classes	Auditory lessons		Total auditory hours	Independent work		Used educational technologies, methods and methods of teaching	Forms of current and border control academic performance
		lecture	practice		SIW	SIWT		
1	Principles of Public Health	2	2	4	2	2	lecture visualization, lesson conference, brainstorming	Control Work
2	Epidemiology and Biostatistics	2	2	4	2	2	lecture visualization, lesson conference, brainstorming	T
3	Health Promotion and Disease Prevention	2	2	4	2	2	lecture visualization, lesson conference, brainstorming	Control Work
4	Social Determinants of Health	2	2	4	1	1	lecture visualization, lesson conference, abstract	T
5	Healthcare Systems and Policies	2	2	4	1	1	lecture visualization, lesson conference, abstract	Control Work
6	Environmental and Occupational Health	2	2	4	1	1	lecture visualization, lesson conference, abstract	T
7	Global Health Challenges	2	2	4	1	1	lecture visualization, lesson conference, abstract	Control Work



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8	Health Program Planning and Evaluation	2	2	4	1	1	lecture visualization, lesson conference, abstract	T
9	Public Health Ethics and Leadership	2	2	4	1	1	lecture visualization, lesson conference, brainstorming	T
	Module 2						T	
	Total Hours for the Discipline: 60h	18	18	36	12	12	Credit	



Methodological recommendations for practical classes

Practical classes are held after lectures and are of an explanatory, summarising and consolidating nature. They can be conducted not only in the classroom, but also outside the institution.

During practical classes, students perceive and comprehend new learning material. Practical classes are systematic, regularly following each lecture or two or three lectures.

Practical classes are carried out according to the schedule of the educational process and independent work of students in disciplines.

When preparing for practical classes, it is necessary to study in advance the methodological recommendations for its implementation. Pay attention to the purpose of the lesson, to the main questions to prepare for the lesson, to the content of the topic of the lesson. Before each practical session, students study the plan of the seminar with a list of topics and questions, a list of literature and homework on the material presented at the seminar.

The following scheme of preparation for the seminar is recommended for the student:

1. work through the lecture notes;
2. read the main and additional literature recommended for the studied section;
3. answer the questions of the plan of the seminar class;
4. study the topics and select literature for writing essays, reports, etc.

Plan for organising the student's independent work (SIW/ SIWT)

Here is the adapted version for Public Health and Healthcare:

1. Essentials of Public Health by Guthrie S. Birkhead, 3rd Edition, 2021
2. Public Health Practice by Jonathan E. Fielding, 2021 | 1 |
| 2 | Epidemiology: Basic Concepts and Methods for Public Health Practice | Report/PPT | 1. Epidemiology: Beyond the Basics by Moyses Szklo, 4th Edition, 2020
3. Modern Epidemiology by Kenneth J. Rothman, 4th Edition, 2021
4. Introduction to Epidemiology by Ray M. Merrill, 8th Edition, 2022 | 2 |
| 3 | Social Determinants of Health and Health Inequalities | Report/PPT | 1. Social Determinants of Health: A Comparative Approach by Alan Davidson, 2020
5. Health Equity in a Globalizing World by Ronald Labonté, 2019
6. Closing the Gap in a Generation by WHO, 2008 | 3 |
| 4 | Health Promotion and Disease Prevention Strategies | Report/PPT | 1. Health Promotion: Planning and Strategies by Jackie Green, 4th Edition, 2019
7. The Handbook of Health Promotion and Disease Prevention by Andrew Baum, 2021



8. Planning and Implementing Health Promotion Programs by James F. McKenzie, 8th Edition, 2022 | 4 |
| 5 | Healthcare Systems: Organization, Financing, and Delivery | Report/PPT | 1. Introduction to U.S. Health Policy by Donald A. Barr, 4th Edition, 2020
9. Comparative Health Systems: A Global Perspective by James A. Johnson, 3rd Edition, 2020
10. Health Policy Analysis: An Interdisciplinary Approach by Curtis P. McLaughlin, 3rd Edition, 2020 | 5 |
| 6 | Environmental and Occupational Health: Risk Factors and Interventions | Report/PPT | 1. Environmental Health: From Global to Local by Howard Frumkin, 4th Edition, 2022
11. Occupational and Environmental Health by Barry S. Levy, 8th Edition, 2020
12. Environmental Epidemiology: Principles and Methods by A. John Bailer, 2018 | 6 |
| 7 | Global Health: Challenges and Emerging Issues | Report/PPT | 1. Global Health 101 by Richard Skolnik, 4th Edition, 2021
13. Global Health: Diseases, Programs, Systems, and Policies by Michael H. Merson, 4th Edition, 2018
14. The New World of Global Health by William C. Cockerham, 2021 | 7 |
| 8 | Public Health Emergencies: Preparedness and Response | Report/PPT | 1. Public Health Preparedness: Case Studies in Policy and Management by Laura J. Biesiadecki, 2020
15. Emergency Public Health: Preparedness and Response by Girish Bobby Kapur, 2nd Edition, 2020
16. Pandemics: A Very Short Introduction by Christian W. McMillen, 2020 | 8 |
| 9 | Health Program Planning and Evaluation: Concepts and Applications | Report/PPT | 1. Planning, Implementing, and Evaluating Health Promotion Programs by James F. McKenzie, 7th Edition, 2019
17. Program Evaluation in Public Health by Muriel J. Harris, 2021
18. Evaluation in Action: Interviews with Expert Evaluators by Jody Fitzpatrick, 2020 | 9 |

Methodological recommendations on the performance of independent work.

Extracurricular independent work of students (hereinafter referred to as independent work) is a planned educational, research, scientific and research activity of students, carried out in extracurricular time on the assignment and under the methodological guidance of the teacher, but without his direct participation. It includes:

preparation for classroom sessions (lectures, practical, seminar, etc.) and fulfilment



of relevant assignments;

-independent work on individual topics of academic disciplines in accordance with the educational and thematic plans;

- writing essays, reports;

preparation for all types of practice and fulfilment of the tasks stipulated by them;

- preparation for all types of control tests, including comprehensive examinations and credits;

-preparation for the final state certification, including the final qualification work; other activities organized and carried out by the university, faculty or department.

Execution of any type of independent work involves students passing through the following stages:

-defining the purpose of independent work;

-specification of a cognitive (problem or practical) task; - planning of independent work;

implementation of the programme of independent work.

A PowerPoint presentation slide is a single page or image in PowerPoint that is used to visually present information. Slides are the main element of a presentation and allow you to structure and communicate content in a convenient format.

Presentation design requirements:

-When compiling slides, you can follow the following structure:

Slide 1: title slide (title of the work, purpose of the work);

Slide 2: relevance of the topic, object and subject of the study (you can insert drawings and photos of the subject of the study);

Slide 3: purpose, hypothesis and objectives of the study;

Slide 4: theoretical basis, methods and tools of the research;

Slide 5-8: content of the research (proposed solution of the research problems with justification, main stages of the work);

Slide 9: analysis and practical significance of the achieved results;

Slide 10: general conclusion and conclusions.

The presentation should last no more than 10 minutes

General recommendations:

- the information that is perceived worse without visual support should be put on the slide;

- slides should supplement or summarise the content of the presentation or its parts, not duplicate it;

- each slide should have a title;

- information on the slides should be brief, clear and well structured;

- the slide should not be overloaded with graphic images and text, the free margin of the slide should be large enough.



Abstract - a summary in writing of the content of scientific work on the provided topic. It is an independent research work, where the student reveals the essence of the researched problem with elements of analysis on the topic of the abstract.

Cites different points of view, as well as his/her own views on the problems of the abstract topic. The content of the abstract should be logical, the presentation of the material should be problem-thematic in nature.

Requirements for the design of the abstract:

The length of the abstract can range between 9-10 typed pages.

Main sections: table of contents (outline), introduction, main content, conclusion, list of references.

The text of the abstract should contain the following sections:

- title page with the following information: name of the university, department, topic of the abstract, name of the author and name of the teacher

– introduction, relevance of the topic.

– main section.

– conclusion (analysing the results of the literature search); conclusions.

– The list of literature sources should have at least 10 bibliographic titles, including online resources.

The text part of the abstract shall be drawn up on the following format sheet:

– top indent - 2 cm; left indent - 3 cm; right indent - 1.5 cm; bottom indent - 2.5 cm;

– text font: Times New Roman, font height - 14, space - 1.5;

– Page numbering - from the bottom of the sheet. The first page is not numbered.

The abstract should be completed competently with observance of the culture of presentation. There should be references to the literature used, including periodical literature for the last 5 years.

Criteria for evaluating the abstract:

– relevance of the research topic;

– relevance of the content to the topic;

– depth of development of the material;

– the correctness and completeness of the development of the issues raised;

– significance of the findings for further practical activities;

– the correctness and completeness of the use of literature;

– compliance of the abstract design with the standard;

– quality of reporting and answers to questions when defending the abstract.

List of Basic and Additional Literature for Public Health and Healthcare
Basic Literature



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Introduction to Public Health, 6th Edition, 2020, Mary-Jane Schneider
Social Determinants of Health: A Comparative Approach, 2020, Alan Davidson
Epidemiology: Beyond the Basics, 4th Edition, 2020, Moyses Szklo
Global Health 101, 4th Edition, 2021, Richard Skolnik
Environmental Health: From Global to Local, 4th Edition, 2022, Howard Frumkin
Planning, Implementing, and Evaluating Health Promotion Programs, 8th Edition, 2022, James F. McKenzie
Comparative Health Systems: A Global Perspective, 3rd Edition, 2020, James A. Johnson
Health Policy Analysis: An Interdisciplinary Approach, 3rd Edition, 2020, Curtis P. McLaughlin

[Additional Resources](#)

[World Health Organization \(WHO\)](#)

[Centers for Disease Control and Prevention \(CDC\)](#)

[The Lancet: Public Health Section](#)

[Global Health NOW](#)

[American Public Health Association \(APHA\)](#)

Monitoring and evaluation of learning outcomes

Each module is assessed using a 100-point system. The maximum score is 100. A student is allowed to take the final test if he has a total score in the discipline of 60 points or more.

Scoring Criteria	Module 1	Module 2
Classroom work (activity in discussions, oral questioning, working with a glossary, lectures, completing assignments, etc.)	40 points	40 points
Independent work: essay, report, etc	20 points	20 points
Total for the module (testing, situational task)	40 points	40 points
Total for the discipline	100 points	

Evaluation criteria:

Criteria for assessing the practical class:

- "Excellent" rating awarded to the student if he has knowledge of the discipline in the full scope of the program and comprehends the discipline deeply enough; independently, in a logical sequence and exhaustively answers all questions, emphasizing the most essential, is able to analyze, compare, classify, generalize, concretize and systematize the studied material, highlight the main thing in it;
- rating "good" the student has knowledge of the discipline almost to the full extent of the program (there are knowledge gaps only in some sections); independently



and partly with leading questions, gives complete answers to the ticket questions; does not always highlight the most significant, but at the same time does not make serious mistakes in the answers;

- rating "satisfactory" is given in cases where the student has basic knowledge in the discipline; shows difficulty in answering independently, uses imprecise formulations; in the process of answering, errors are made regarding the substance of the questions;

- rating "unsatisfactory" is given in cases where the student has not mastered the required minimum knowledge of the subject and is unable to answer the questions on the ticket even with additional leading questions from the teacher.

Criteria for evaluating practical skills:

- Rated "*excellent*" is determined through a thorough and systematic conduct of all stages of the neurological examination. Having clear and professional communication with the patient during the examination. The student has a thorough understanding of the neurological aspects being studied, including the analysis of specific symptoms and their interpretation.

- Rated "*good*" graded by competently performing the basic steps of a neurological examination and interacting effectively with the patient to ensure understanding and trust. With the ability to identify the main neurological symptoms and conduct appropriate analysis.

- Rating "*satisfactory*" is set when performing the main stages of a neurological examination, but with some shortcomings, with some misunderstandings or failures in communication with the patient. With basic knowledge of neurological symptoms and their interpretation.

- Rating "*unsatisfactory*" awarded if the student makes serious errors or omissions in conducting a neurological examination, as well as if there are problems in communication that may cause difficulties or even dissatisfaction in the patient and insufficient knowledge of neurological aspects and their identification during the examination.

Criteria for evaluating SIW/SIWT:

- rating "*excellent*" awarded to the student if the topic of the essay is fully disclosed, excellent mastery of the material is demonstrated, appropriate sources are used in the right quantity, the structure of the work corresponds to the assigned tasks, the degree of independence of the work is high;

- rating "*good*" awarded to the student if the topic of the essay is basically covered, good mastery of the material is demonstrated, appropriate sources are used, the structure of the work generally corresponds to the assigned tasks, the degree of independence is average;

- rating "*satisfactory*" awarded to the student if the topic of the essay is poorly



covered, satisfactory mastery of the material is demonstrated, the sources used and the structure of the work partially corresponds to the assigned tasks, the degree of independence of the work is low;

- rating "*unsatisfactory*" assigned to the student if the topic of the essay is not covered, poor mastery of the material is demonstrated, the sources used are insufficient, the structure of the work does not correspond to the assigned tasks, the work is not independent.

Project evaluation criteria:

- "Excellent" rating awarded to students if the project demonstrates outstanding depth of exploration of the neurological aspects of the topic while presenting innovative research approaches. Effective public education emphasizes creativity and originality of the project, as well as active community involvement. The organization and structure of the project is highly organized, logically structured, ideas are clearly and professionally expressed

- a "good" grade is given to students if the project demonstrates a good depth of research into neurological aspects, supported by specific facts and data. The effectiveness of education is significant, but there is room for further improvement. The presence of creative elements gives the project originality, but some aspects may require additional development. Community involvement is positive but can be more intense. The organization and structure of the project is generally good, but some areas may require improvement.

-rating "satisfactory" awarded to students if the project meets the minimum requirements for research in neurological aspects, but requires additional development. The effectiveness of education is at a basic level and the project can be improved in this area. The project contains elements of creativity, but they can be supplemented and deepened. Community involvement could be more active. The organization and structure of the project needs additional attention to improve clarity and consistency.

- an "unsatisfactory" grade is given to students; the project does not meet basic standards and does not provide sufficient depth in the study of the neurological aspects of tuberculosis. The effectiveness of education is extremely limited, creativity and originality are lacking. Community involvement is insufficient or absent. The organization and structure of the project raises serious concerns, making it difficult to understand and disorganized.

MCQ Evaluation Criteria:

- "*excellent*" rating on testing is awarded to the student who provides correct, deep and clear answers, demonstrating a high level of knowledge and their practical application. Important factors are the student's ability to solve complex problems, be creative, and comply with test requirements. Criteria may vary, but the general



requirement is outstanding understanding and successful application of course material (if the number of correct answers is 90 or more)

- rating "good" on testing is given to a student if he has demonstrated good knowledge of the subject, provided correct answers, clearly and clearly expressed his thoughts, and also successfully coped with the main aspects of the test tasks. This score may also reflect the student's ability to apply acquired knowledge in a variety of situations and effectively use the learned skills in test tasks (if the number of correct answers is from 76 to 89)

- rating "satisfactory" on testing is awarded to a student who demonstrates a basic understanding of the subject matter, provides answers that meet the minimum requirements, and successfully completes the main elements of the test. This score may indicate that the student has mastered the basics of the material, but may not have achieved a high level of depth of knowledge or was unable to cope with more complex aspects of the assignments (with the number of correct answers from 60 to 75)

- rating "unsatisfactory" on testing is given to a student if his knowledge of the subject is insufficient, the answers contain significant errors or do not meet the minimum requirements, and also if the student has not coped with the main aspects of the test. This score indicates an unsatisfactory level of mastery of the material and an inability to apply knowledge within the framework of test tasks (if he gave up to 59 correct answers inclusive)

Scale of correspondence between grades and points on the final control (exam)

Points	Grade
90-100	excellent
76-89	good
60-75	satisfactorily
0-59	unsatisfactory

Academic discipline policy:

- compulsory attendance at classes;
- active participation of the student in practical classes;
- preliminary preparation and completion of homework;
- high-quality and timely completion of tasks under SIW;
- participation in all types of control (current, milestone, final);
- one lateness to classes and/or leaving before their end for any reason is considered as one missed lesson that cannot be restored;
- unacceptable: the use of cell phones during classes, deception and plagiarism, late submission of assignments, failure to comply with chain of command and rules of



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conduct.

Assist: For consultations on completing independent work their delivery and defense, as well as for additional information on the material covered and all other questions that arise regarding the course being taught, please contact the teacher during the hours allocated for SIW