EI "ROYAL METROPOLITAN UNIVERSITY"
Department of Natural and Humanitarian Disciplines

SYLLABUS

Program:	General medicine
Qualification of the graduate:	General practitioner / Medical doctor
Year:	2021-2022
Semester:	2
Course duration:	18 weeks
Instructor/Assistant/Professor	Name: Djumagulov E.K.
Department:	Humanities
Day and Time for consultation:	Wednesday at 13:00-14:00., room 211
Classroom:	211
e-mail:	
Course Title:	Mathematics and computers science
Must/Elective:	
Credit/Hours:	3

Bishkek 2021

1. **Djumagulov E.K., e-mail:**

2. **Description of discipline:**
To promote the mastery of medical students with the mathematical apparatus necessary for solving theoretical and practical problems, the development of students' ability to study mathematical literature independently and the ability to express natural science and clinical problems in mathematical language;
Based on the study of the basic concepts of computer science, to prepare a specialist with knowledge and skills that allow using computer applications, means of information support for medical decisions, automated medical and technological systems for solving problems of medicine and healthcare

The place of discipline in the structure of the BEP (prerequisites, postrequisites) –
The discipline " Mathematics and computers science " refers to the basic part of the disciplines of the humanitarian, social and economic cycle of the BEP training specialists in the direction of "Medicine". It is an ideological and scientific-methodological basis for the study of humanitarian and socio-economic disciplines.
Prerequisites: For successful studying of this course, student must know:

Higher math: Calculus systems, algebra, differential calculus, elementary statistics. Physics: Mechanics, basics of thermodynamics, electricity, elements of nuclear physics, optics. Anatomy.
Post-requisites: Bio-chemistry, epidemiology, normal physiology.
Learning Outcomes: (expected knowledge & ability at the end): Fundamentals of differential and integral calculus.
The theory of first-order differential equations with separable variables.
Fundamentals of statistical methods in clinical and laboratory experimental studies.

Competencies of students, formed as a result of mastering the discipline, planned results of mastering the academic discipline.

3. **Name and complexity of the discipline**

№	Name of discipline	course	semester	Week	Academic hours		Independent work	Total
					Lecture	Practice	IWS	
1	Mathematics and computers science	1	2	18	16	30	44	90

4. Thematic plan for modules (indicating weeks and hours, dates)

2 semester

Course Plan	Lecture / Practice	Topic	hours
1 week	Lecture	**Topic 1.** *Mathematics as part of universal culture lecture*	2
2 week	Lecture	**Topic 2.** *Elements of set theory*	2
3 week	Lecture	**Topic 3.** *Elements of combinatorics*	2
4 week	Lecture	**Topic 4.** *Elements of probability theory*	2
5 week	Lecture	**Topic 5.** *Elements of mathematical statistics*	2
6 week	Lecture	**Topic 6.** *Introduction to computer science, number systems*	2
7 week	Lecture	**Topic 7.** *General principles of organization and operation of a computer*	2
8 week	Lecture	**Topic 8.** *Operating systems. Windows OS. WORD text editor.*	2
1 week	Practice	**Topic 1.** *Mathematics as a part of universal culture Lecture mathematics as a science*	3
2 week	Practice	**Topic 2.** *Elements of set theory.*	3
3 week	Practice	**Topic 3.** *Elements of combinatorics*	3
4 week	Practice	**Topic 4.** *Elements of probability theory*	3
5 week	Practice	**Topic 5.** *Elements of mathematical statistics*	3
Module 1 (Date)			
6 week	Practice	**Topic 6.** *Introduction to computer science, number systems*	3
7 week	Practice	**Topic 7.** *General principles of computer organization and operation*	3
8 week	Practice	**Topic 8.** *Operating systems. Windows OS lecture Introduction to Operating Systems*	3
9 week	*Practice*	**Topic 9.** *Windows OS: General information*	6
Module 2 (Date)			

5. Schedule of consultations

Semester	Group	Week	Time	Room
2	GM-1-21	Wednesday	13.00-14.00	211

6. Schedule for receiving detentions

Semester	Group	Week	Time	Room
2	GM-1-21	Wednesday	8.00-16.00	211

7. List of basic and additional literature

A) Main literature

1. Turetsky V. Ya. Mathematics and informatics: Textbook / V. Ya. Turetsky; Ural State University named after A.M. Gorky. - 3rd ed., corrected. and add. - M.: INFRA-M, 2010. - 558 p. http://znanium.com/bookread.php?book=206346
2. Mathematical analysis. Theory and practice: Textbook / V.S. Shipachev. - 3rd ed. - M.: Research Center INFRA-M, 2015. - 351 p.
1. http://znanium.com/bookread.php?book=469727
2. Mathematical analysis: collection of problems with solutions: Textbook / V.G. Shershnev. - M.: NIC INFRA-M, 2014. - 164 p. http://www.znanium.com/bookread.php?book=445587
3. Mathematics: Textbook / A.A. Dadayan. - 3rd ed. - M.: Forum: NIC INFRA-M, 2013. - 544 p. http://www.znanium.com/bookread.php?book=39766

B) Additional literature:

1. Practical training in computer science: Uch. pos. Part 1. / T.I. Nemtsova, Yu.V. Nazarova; Under the editorship of L.G. Gagarina. - M.: ID FORUM: INFRA-M, 2011. - 320 p. // http://www.znanium.com/catalog.php?bookinfo=262844
2. Zaporozhets G.I. Guide to solving problems in mathematical analysis / 8th ed. stereo. - M.: "Lan", 2014. - 464 p. // http://e.lanbook.com/books/element.php?pl1_id=149
3. Dyuzhenkova L.I. Practical training in higher mathematics. Part 1. - M.: Publishing house "Binom.
4. Laboratory of knowledge", 2012. - 448 p. // http://e.lanbook.com/books/elemen

List of resources of the information and telecommunications network

"Internet" necessary for mastering the discipline

http://www.nsu.ru/mmf/tvims/lotov/tvims.pdf - - http://www.nsu.ru/mmf/tvims/lotov/tvims.pdf
http://www.diary.ru/~eek/p63330726.htm - http://www.diary.ru/~eek/p63330726.htm Basic course with examples and problems. Moscow: FIZMATLIT, 2002 -
http://postovalov.net/teaching/tv_ms/kibzun.pdf
V.V. Alekseenkov, V.P. Vasilenkov PROBABILITY THEORY AND MATHEMATICAL STATISTICS - http://management.smolgu.ru/documents/cmi/posobiya/teor_ver_mat_stat.pdf
Online textbook on probability theory - http://teorver-online.narod.ru/

8. Course polıcy and evaluation crıterıa:

Type of control (current, milestone, final)	Control form	Assessment of learning outcomes
Current control	Oral surveey, written work	40 points
IWS+IWW	Perfoming assignments, work with literature	20 points
Milestone control (modul submission)	Testing, control tasks	40 points
Final control (differential test)	Conversation, examination	100 points

Scale of correspondence between grades and scores on the final control (exam)	
Score	Grade
90-100	«excellent»
76-89	«good»
60-75	«satisfactory»
0-59	«unsatisfactory»

9. Policy of the academic discipline (corporate culture code, student code of ethics):
-   Mandatory attendance.
-   Active participation of the student in practical classes, preliminary preparation and homework.
-   High-quality and timely completion of tasks for the SIW.
-   Participation in all types of control (current, milestone, final).

Additional requirements:
a. one lateness to classes and / or leaving before their end for any reason is considered as one missed lesson that is not subject to recovery;
b. unacceptable: the use of cell phones during classes, deceit and plagiarism, late delivery of assignments, non-compliance with subordination and rules of conduct.

Help: For advice on the implementation of independent work (SIW), their delivery and protection, as well as for additional information on the material covered and all other questions you may have about the course, please contact the teacher during the hours allotted for consultations.