INTERNATIONAL SCHOOL OF MEDICINE

SYLLABUS

Program:	**General medicine**
Qualification of the graduate:	**General practitioner / Medical doctor**
Year:	**2022-2023**
Semester:	**1**
Course duration:	**18 weeks**
Instructor/Assistant/Professor	**Name: Ibraeva Asel**
Department:	**The Department of Humanities**
Day and Time for consultation:	**Thursday, 12.00** **Friday, 12.00**
Classroom:	**502**
e-mail:	**Assol-06@mail.ru**
Course Title:	**Higher mathematics and computer science**
Must/Elective:	**Must**
Credit/Hours:	**2/60**
Course Description:	**"Higher mathematics and computer science " is a compulsory discipline of the professional cycle of the curriculum for the 560001 General medicine related to the basic parts of B.2.1, mathematical and natural sciences occurring problems in medicine, physics, mathematics, economics and other fields.**
Course Objectives:	**The objectives of the course:** **- possession of theoretical positions in the field of mathematics and computer science, owning a future specialist;** **– formation of the ability to navigate in the flow of various information, to be able to identify the basic elements of the disclosed system associated with data, with their processing and formation of information and calculations;** **- familiarization with technologies and means of collecting and processing data, generating information;** **– formation of skills in working with state computer technologies and the Internet;** **– possession of information about the methods of information processing, common in the territory with IT technologies in separate worlds.**
Prerequisites:	**To study the disciplines, knowledge of the disciplines "mathematics" and "computer science" in the original school curriculum is required.**
Post-requisites:	**medical biophysics, information technologies in medicine**

Learning Outcomes: (expected knowledge & ability at the end)	**To understand the use of educational, scientific, popular science literature, the Internet for professional activities.** **To know higher mathematics, MS Office programs, standard software or professional activities, basic concepts and methods of information security, computer workshop.** **Use to problems of an economic nature are considered in the analysis of specific problems, offering solutions for their solution, taking into account socio-economic reliability, identifying an assessment of possible risks and socio-economic consequences.** **Analyze system modeling by using the processes of data presentation, data processing, information generation.** **Implement technical and software tools for the implementation of information processes (SLK-4);** **Synthesize and explore the activities of a small group.** **Evaluate individual methods for collecting, processing and analyzing information and social data.**
Basic references:	**1. Artemov A. "Monitoring information on the Internet". Digital book. Publisher: MOO Interregional Public Organization Academy of Security and Survival, 2014** **2. Biryukov A. "Information security: defense and attack" 2nd edition, Publishing house "DMK", 2016** **3. Efimova L.L. Information security of children. Russian and foreign experience: Monograph / L.L. Efimova, S.A. Poker. – M.: UNITI-DANA, 2013. – 239 p.** **4. Zapechinkov S.V. Information security of open systems in 2 volumes / S.V. Zapechinkov. – M.: GLT, 2008. – 558 p.** **5. Ibraeva A.T., Seitkazieva N.S., Niyazbekov T.K., / Textbook for performing practical tasks in the discipline of Informatics, 2022,** **6. Rodichev Yu. "Regulatory framework and standards in the field of information security", Study Guide, St. Petersburg, 2017** **7. Seitkazieva N.S., Ibraeva A.T., Niyazbekov T.K., Computer graphics / Tutorial 2022** **8. Seitkazieva N.S., Ibraeva A.T., Niyazbekov T.K., Informatics / Textbook 2022**
Supplementary Textbook and Materials:	**1. Guttag, John. Introduction to Computation and Programming Using Python: With Application to Understanding Data. MIT Press, 2016. ISBN** **2. Zelle, John M. Python Programming: An Introduction to Computer Science. 1st ed. Franklin Beedle & Associates, 2003**

COURSE POLICY AND EVALUATION CRITERIA:

Type of control (current, milestone, final)	Control form	Assessment of learning outcomes
Attendance	For one missed lesson minus 2 points	20 points
Current control	Oral surveey, written work	20 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 (test.edu.kg)	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»

Course Plan	Lecture / Practice	Subject
1 week	1/1	**Information technology, processing and presentation of data in management information systems.**
2 week	1/1	**Microsoft WORD text editor**
3 week	1/1	**Spreadsheets MS EXCEL.**
4 week	1/1	**Calculations in MS Excel.**
5 week	1/1	**Functions in MS Excel.**
6 week	1/1	**Use of spreadsheets for processing, presentation, analysis of data in the work of specialists in the field of medicine, processing and presentation of data in management information systems.**
7 week	1/1	**Graphical interpretation of the data in Microsoft Excel**
8 week	1/1	**Creating PivotTables in Microsoft Excel**
Modul 1 (Date)	1/1	**Practical works**
9 week	1/1	**Organization of the user interface Microsoft Access.**
10 week	1/1	**Database design in Microsoft Access.**
11 week	1/1	**Processing Data with Queries**
12 week	1/1	**Organization of the user interface Microsoft Power Point**
13 week	1/1	**Designing presentations in Microsoft Power Point**
14 week	1/1	**Creating animation effects in Microsoft Power Point**
15 week	1/1	**Creating video effects in Microsoft Power Point**
16 week	1/1	**Types of computer graphics and their main characteristics**
17 week	1/1	**Using multimedia capabilities in various projects implemented in the area of medicine**
Modul 2 (Date)	1/1	**Practical works**
18 week	1/1	**Creating a website on Google**