Catalog of elective disciplines for 2023-2024 academic year

1. Department: Chemical disciplines
2. Level of preparation: bachelor's degree
3. Specialty: 6B10101 - General medicine, 6B10102 - Pediatrics, 6B10103 - Dentistry 4.
Course: 1
5. Name of the elective discipline: Chemistry
6. Number of credits: 3
7. Purpose: The purpose of the discipline is to form a holistic physicochemical, natural science approach to the study of the human body and its environment in students, as well as to substantiate the chemical and physicochemical aspects of the most important biochemical processes and various types of equilibria occurring in a living organism. Formation of a student - dentist of systemic knowledge about the basic physical and chemical laws of the course of biochemical processes (normal and pathological) at the molecular and cellular levels; about the structure and mechanisms of functioning of biologically active compounds; the formation of the natural scientific thinking of specialists in the medical dental profile, as well as the competence and professionally significant personality traits.
8. Tasks
- to form an understanding of equilibria in aqueous solutions of strong and weak electrolytes;
- to teach to apply physical and chemical laws to the description of biochemical processes in the body;
- to give an understanding of the basic principles of qualitative and quantitative analysis;
- to teach the use of chemical and physicochemical methods of analysis;
- to study the most important laws of electrochemistry that allow predicting corrosion resistance and optimizing the search for new structural dental materials;
- to form the concept of the relationship between the chemical composition, structure, properties and biological activity of substances;

9. Rationale for the choice of discipline
It is well known that in modern conditions the key task of higher education is the fundamental nature of education. Chemistry is a fundamental science and a powerful tool for research and knowledge of processes in living systems. Therefore, students of medical specialties should master well the basic ideas, laws and methods of this science. The program is supposed to consider the basics of the most important topics of the course of inorganic, analytical and physical chemistry. The discipline "Chemistry" prepares a theoretical basis for the development of some sections of biochemistry, molecular biology, physiology, pharmacology, hygiene and provides a broader involvement of the scientific approach and the latest research methods, gleaned from the fundamental sciences, in the study of biomedical, clinical disciplines. The task of profiling the course is an in-depth study of such topics as the composition of bone tissue, the composition of saliva and its mineralizing function, the processes occurring in the oral cavity. The knowledge gained by students during the passage of the topics "Phase equilibria", "Corrosion of metals and alloys", "Surface phenomena. Adsorption" are the physicochemical basis for the subsequent study of orthopedic and therapeutic dentistry. An important task of optimizing higher medical education is the expansion of interdisciplinary connections and the integration of fundamental, biomedical and clinical disciplines.
10. Outcomes of learning

Knowledge (cognitive domain)	Skills and experiences (psychomotor sphere)	Personal and professional competencies (relationships)
Demonstrates knowledge and understanding: - chemical processes (main types of reactions) in the body,	- uses calculation formulas (mass fraction, molar concentration, molar concentration equivalent, molar concentration, molar	- formulates the general theoretical foundations of chemistry for the application of the acquired knowledge, skills and abilities in their

obeying the general laws and laws of chemistry; - general energy and kinetic patterns of chemical processes; - the possibility of using the analysis of medicines using chemical, physico-chemical and other methods; - possible methods for preparing solutions, their quantitative characteristics; - classification, properties and application in medicine of the main classes of organic compounds.	fraction, titer) to determine the quantitative content of substances in a solution, including biological fluids; - prepares the solution by the dilution method; - uses a certain set of chemical utensils, reagents, basic instruments and methods of physicochemical measurements used in medicine; - complies with the rules of labor protection and safety measures, has the skills of safe work in a chemical laboratory, knows how to provide first aid.	subsequent professional activities. - analyzes, systematizes information on the laws and experimental research in the field of chemistry, using computer technology and an information database of medical sources. - informs and explains the observed patterns in the field of chemistry on the issues of their application in medicine;

11. Prerequisites: disciplines of secondary general education: chemistry, biology, physics and mathematics.

12. Post requisites: medical biochemistry, morphology and physiology.

13. Literature In Kazakh language:

Main:

1.Қ. Н. Дауренбеков, Қ. М. Серимбетова, А. Ш. Өміркұлов Химия : оқу құралы /. - Шымкент : Әлем баспаханасы, 2019. - 272 бет.

2.Сейтембетов, Т. С. Химия: оқулық / Т. С. Сейтембетов. - Алматы : Эверо, 2010.

Additional:

1. Тюкавкина Н.А., Бауков Ю.И., Зурабян С.Э., қазақ тіліне аударған ж/е жауапты редакторы С.Т.Сейтембетов. Биоорганикалық химия: оқулық / – М : ГЭОТАР – Медиа, 2014. – 400 б.

2. Патсаев, Ә. Қ. Химия пәні бойынша тестілері. 1-бөлім. Бейорганикалық, физколлоидтық химия пәні бойынша тестілері. II-бөлім. Биоорганикалық химия пәні бойынша тестілер : тестілер. - Шымкент : Б. ж., 2010.

Literature In Russian language:

Main:

1. Глинка, Н. Л. Общая химия. Т.1: учеб. пособие для вузов - Алматы : Эверо, 2014
2. Глинка, Н. Л. Общая химия. т. 2 : учеб. пособие для вузов - Алматы : Эверо, 2014
3. Глинка, Н. Л. Общая химия. Т. 3. : учеб. пособие для вузов - Алматы : Эверо, 2014
4. Глинка, Н. Л. Общая химия. т. 4 : учеб. пособие для вузов. - Алматы : Эверо, 2014
5. Жолнин А. В. Общая химия: учебник / А. В. Жолнин ; под ред. В. А. Попкова.- М. : ГЭОТАР - Медиа, 2012

Additional:

1. Патсаев, А. К. Тесты по дисциплине "химия". Ч. 1. Тесты по неорганической, физколлоидной химии. Ч. 2. Тесты по биоорганической химии : тесты . - Шымкент : Б . и., 2010

2 . Веренцова Л.Г., Нечепуренко Е.В. Неорганическая, физическая и коллоидная химия. – Алматы: издательство «Эверо», 2014.

Literature In English language:

1. Glinka, N. L. General chemistry. Volum 1. : manual for graduate students / N. L. Glinka, S. S. Babkina. - 27th ed. - Almaty : "Evero" , 2017. - 232 p.
2. Glinka, N. L. General chemistry. Volume 2.: manual for graduate students / N. L. Glinka, S. S. Babkina. - 27th ed. - Almaty : "Evero" , 2017. - 176 p.
3. Glinka, N. L. General chemistry. Volum 3.: manual for graduate students / N. L. Glinka, S. S. Babkina. - 27th ed. - Almaty : "Evero" , 2017. - 248 p.

4. Glinka, N. L. General chemistry. Volum 4.: manual for graduate students / N. L. Glinka, S. S. Babkina. - 27 th ed. - Almaty : "Evero" , 2017. - 176 p.
5. Nazarbekova, S. P. Chemistry: textbook / S. P. Nazarbekova, A. Tukibayeva, U. Nazarbek. - Almaty : Association of hiigher educationalinstitutions of Kazakhstan, 2016. - 304 p.
6. Shokybayev, Sh. A. Teaching methods on chemistry: textbook / Sh. A. Shokybayev, Z. O. Onerbayeva, G. U. Ilyassova. - Almaty : [s. n.], 2016. - 271 p.
7. Manapov, N. T. Computer chemistry: textbook / N. T. Manapov. - Almaty : Association of hiigher educationalinstitutions of Kazakhstan, 2016. - 312 p.

1. Department: Department "Introduction to the clinic"
2. Education level: Bachelor course
3. Educational programs: «6B10101» «General medicine»
4. Course: 1
5. Name of the elective discipline: Introduction to the profession
6. Number of credits: 3
7. Goal: Formation of students' understanding of modern practical healthcare of the Republic of Kazakhstan, conditions of professional activity of a doctor, organization of work in medical and preventive institutions, skills of observation and patient care.
8. Responsibilities: - Carries out its activities within the framework of the legislation of the Republic of Kazakhstan in the field of healthcare, is guided by their practical activities to ensure optimal medical care.
- Adheres to the rules of ethics, deontology and subordination, demonstrates interpersonal and communication skills that lead to effective information exchange and cooperation with patients, their families and medical professionals
- Complies with the norms for the implementation of public health protection, the sanitary and hygienic regime of the health organization and the epidemiological safety of the environment, labor safety standards for the organization of health protection
- It works on electronic databases of the healthcare system of the Republic of Kazakhstan, provides documentation of the processes of providing medical services
9. **Content of the discipline:** "Introduction to the profession" is a discipline that introduces students to practical healthcare, organization of work of medical and preventive institutions, understanding of the specialty "doctor". The study of the discipline helps the student to understand the essence and social significance of the profession of "doctor", and also shows constant interest. In addition, mastering the discipline helps the student to further apply deontological aspects in practice.
10. Basics of choosing a discipline: This program is designed to provide students with the necessary knowledge, skills and abilities in the subject, to achieve learning outcomes.
11. Learning result:
1) Memorizes the theoretical foundations of modern healthcare and medicine of the Republic of Kazakhstan and describes the difficulties, difficulties and principles of the specialty "doctor ".
2) Knows the structure of a medical and preventive institution, types of medical institutions and their main work. Uses regulatory documents regulating the activities of medical workers in its work.
3) Can explain the principles of the electronic health system of the Republic of Kazakhstan.
4) Knows the rules of patient care, as well as the principles of admission and sanitary treatment of patients. Knows the principles of ethics and deontology between a medical professional and a patient.
5) Assesses the functional state of the patient, is able to draw conclusions from the collected material to ensure the sanitary and epidemiological regime in the health care facility.
6) Correlate the knowledge and judgments of a medical professional about the principles of relationships with patients and their families, as well as with colleagues
7) He is able to apply algorithms in the supervision and care of the patient.
8) Assesses the sanitary and hygienic standards of a medical worker

9) Able to demonstrate knowledge, judgment and skills about the principles of communication with patients and colleagues.

10) Understands the importance of compliance with the requirements of occupational safety, industrial sanitation and infectious safety.

10. Prerequisites:

11. Post-requirements: Введение в клинику

12. Literature:

Main

Дәрігер мамандығына кіріспе.Клиника,құқық, этика және коммуникация негіздері [Мәтін] : оқулық / М.А. Асимов [жәнет.б.]. - 2-ші бас. - Қарағанды : АҚНҰР, 2019. - 232 бет.

Введение в профессию врача. Основы клиники, права, этики и коммуникации [Текст] : учебник / М. А. Асимов, Г. О. Оразбакова . - Қарағанды : АҚНҰР, 2019. - 244 с

Адилова, Л. М. Мейіргердің манипуляциялық әрекетінің алгоритмдері [Мәтін] : оқу құралы = Алгоритмы сестринских манипуляций : учебное пособие / Л. М. Адилова. - М. : "Литтерра", 2016. - 248 бет с

Пульникова, А. В. Сестринский процесс [Текст] : учебное пособие / А. В. Пульникова, Б. С. Имашева. - Алматы : Эверо, 2016. - 300 с

Мейірбикелік дағдылар [Мәтін] : оқулық / А. Қаныбеков [ж. б.]. - Алматы : Эверо, 2016. - 476 б. с

Каныбеков, А. Сестринские технологии [Текст] : учеб. пособие / А. Каныбеков, Ж. Каныбекова. - 2-е изд., перераб. - Алматы : Эверо, 2014. - 628 с

Fundamentals of nursing [Текст] : textbook / Patricia A. Potter [and etc.]. - Philadelphia : Elsevier, 2017. - 1365 p.

Additional

Полный медицинский справочник фельдшера [Текст] :спр. - доп. - М. : Эксмо, 2015. - 832 с. - (Полный медицинский справочник)

Қаныбеков, А. Жедел медициналық жәрдем [Мәтін] : оқу құралы / А. Қаныбеков. - 2-ші бас. - Караганды : АҚНҰР, 2019. - 266 бет. с.

Дубицкий, А. А. Основы организации скорой медицинской помощи в Республике Казахстан [Текст] : научные / А. А. Дубицкий. - Алматы : Эверо, 2014. - 304 с.

Нурманова, М. Ш. Сборник стандартов сестринских технологий по дисциплине "Основы сестринского дела" - Қарағанды : ЖК "Ақнұр", 2013

Коммуникативтік дағдылар [Мәтін] : анықтамалық = Коммуникативные навыки : справочник = Communication skills : directory / Л. Л. Мациевская [и др.]. - Алматы : Эверо, 2014. - 118 бет. с.

Молотов-Лучанский, В. Б. Коммуникативные навыки [Текст] : учеб. пособие / В. Б. Молотов-Лучанский, Л. Л. Мациевская, Н. А. Цаюкова. - Алматы : Эверо, 2014. - 138 с

1. Department of Biology and Biochemistry

2. Bachelor's degree in «General Medicine»

3. Course 1

4. Elective discipline "Molecular biology and medical genetics"

5. Number of credits - 5

6. Purpose:

• formation of students' modern knowledge about molecular biology and medical genetics, fundamental disciplines of basic medical education, combining the latest knowledge on the molecular organization of animal cells and DNA technologies,

• understanding their role in ensuring public health;

• formation of basic knowledge in the field of genomic technologies necessary for the development of general professional disciplines and in clinical practice;

• formation of skills and abilities in molecular biology and medical genetics, which are of the greatest interest for practical healthcare;

• preparing students for the systematic perception of general medical, social and clinical disciplines;
• education of students' sense of responsibility to the chosen profession related to the creation and maintenance of the health of the nation and personal health.
7. Tasks:
• to form an understanding of the role of molecular genetic and cellular mechanisms of the functioning of the body in norm and pathology for the effective diagnosis and prevention of common diseases, the principles of the use of molecular genetic methods and technology in medicine;
• gain professional skills in DNA technologies, work with high-tech equipment of molecular genetic laboratories;
• gain knowledge about the methods of creating transgenic animals, the use of biotechnology in medicine;
• to study the causes and mechanisms of hereditary variability and their role in the formation of hereditary human pathology;
• to study modern genetic engineering technologies used in the diagnosis of diseases.
• teach the skills of working with scientific literature and electronic biomedical databases.
• formation of students' natural science worldview and the logic of biological thinking necessary for the subsequent practical activity of a doctor;
• education of students' sense of responsibility to the chosen profession related to the creation and maintenance of the health of the nation and personal health.
8. Justification of the choice: Molecular biology is one of the fundamental disciplines of basic medical education and studies the structure, properties, functions of informational macromolecules – proteins and nucleic acids, matrix syntheses, organization and functioning of genetic material, molecular bases, causes of the occurrence and development of hereditary diseases, their diagnosis, prevention and treatment.
The achievements and discoveries of molecular biology are of great importance for the development and progress of biomedical and clinical disciplines; create the necessary conditions for the development of molecular medicine, whose main tasks are to determine the causes and identify the molecular basis of the pathogenesis of diseases, develop methods for their prevention, diagnosis and treatment; create technologies to counter biological threats.
According to the UNESCO decision, the main criterion for the social well-being of the people is their health. The development of molecular medicine, developments in this field:
• play an important role in ensuring the biological safety of the country;
• create the necessary prerequisites for the creation of genetic databases of the population,
• genetic maps of reproductive, neuropsychiatric health, predisposition to cardiovascular and oncological pathology; creation of systems of molecular DNA markers for the formation of risk groups and monitoring of cardiovascular, oncological, autoimmune and other diseases within the framework of annual medical examinations.
8. Learning outcomes:
1) The student knows and understands:
• the main mechanisms of maintaining the constancy of genetic and cellular homeostasis;
• mechanisms of genetic information transfer during the cell cycle;
• structure and functions of informational macromolecules, mechanisms of transfer and expression of genetic information;
• the structure of the hereditary apparatus and the mechanisms of regulation of its activity;
• basic principles of application of molecular genetic methods and technologies in medicine;
• mechanisms of regulation of the cell cycle, carcinogenesis and programmed cell death;
• basic ideas about the basic laws and modern achievements of genetics, genomics and proteomics;
• issues of occurrence and classification of congenital malformations;
• molecular biological and genetic terminology in 3 languages.
2) The student is able to use and apply knowledge and understanding:
• to work on research at the molecular genetic and chromosomal levels;
• modern experimental methods of working with biological objects in laboratory conditions;

• molecular genetic processes for assessing the factors of health formation and explaining the protective and adaptive processes of regulation and self-regulation in norm and pathology;
• molecular genetic methods and technologies for the diagnosis of diseases;
• genealogical method for the prediction of hereditary human diseases;
• different types of chromosomes for recognition of normal and pathological human karyotypes;
• in working with special reference materials, apply knowledge of the basics of the molecular genetic concept.

3) The student expresses a judgment:

• about the basic cytogenetic and molecular concepts, about the importance of molecular genetic research in the field of healthcare;
• on bioethics issues in the use of modern molecular genetic technologies;
• able and ready to analyze socially significant problems and processes, to use in practice the methods of the humanities, natural sciences, biomedical and clinical sciences in various types of professional and social activities;

4) The student shows the ability to study:

• when studying new areas of knowledge independently;
• when learning foreign languages to work with the material in the original language;
• cultural, moral, physical and professional self-development and self-improvement.

Knowledge (cognitive sphere)	**Skills and abilities (psychomotor sphere)**	**Personal and professional competencies (relationships)**
Informational macromolecules of the cell. Squirrels.. Folding, Nucleic acids: classification, structure, functions of DNA, RNA. Matrix synthesis of nucleic acids. Replication, mechanisms and replication factors. Expression of genetic material. Transcription mechanisms of DNA transcription. Processing and splicing of RNA. Broadcast. The genetic code and its properties..Modification of proteins. Regulation of gene expression in prokaryotes and eukaryotes. Regulation of gene expression in prokaryotes and eukaryotes. The genetic apparatus of the cell. Gene, classification, structure, properties. Prokaryotic and eukaryotic genes. Genome, DNA departments, human genome organization. Chromosomes, morphology, classification. The karyotype of a man. Violation of genetic homeostasis and its	To use the acquired knowledge of the molecular mechanisms of the functioning of the organism and their role in ensuring the protection of public health; to use knowledge about the molecular mechanisms of the functioning of the organ to assess the factors of health formation and explain the protective and supportive processes of regulation and regulation in norm and pathology; the ability to independently systematize the acquired knowledge of molecular genetic methods and technologies for the diagnosis of diseases; the ability to use the knowledge of molecular biology to solve practical and research problems; the ability to search for the necessary scientific information from various sources and to analyze it; to argue their own position during the discussion of biological problems;	Inform the patient about the existing disease; teach them to live in changed conditions; have a high level of humanity, developed intuition, the ability to empathize with someone else's grief, strengthen faith in yourself and your own recovery; interact with family members and the immediate environment of patients; apply the principles of effective communication, conflict management, stress management and the use of innovation apply methods of effective communication in the organization, psychology issues for conflict management, stress and innovation in the organization; to take into account knowledge about the biological essence of a person when solving problems in the field of psychology; interact with colleagues;

manifestations in human pathology. Mutations. Mutagenesis. Classification of gene mutations by the mechanism of occurrence, by consequences, by localization in gene and cell, according to the effect on the viability of the organism. Single-parent dysomias, imp-riting. Single nucleoid polymorphism. The concept of chromosomal mutations of aberations; Classification of chromosomal mutations. Mu-tagenesis and types. Mutagenic factors. Types of DNA damage: damage to single nucleotides, pairs of nucleotides; double-stranded and single-stranded DNA chain breaks. DNA repair. Types of repair: direct, excision and postreplicate. Molecular genetic methods of genome research and their application in medicine: molecular cloning of PCR, PAAG, sequencing Southern hybridization methods, obtaining primers corresponding to known genes. Methods of gene mapping. Hybridization in situ. Cytogenetic and molecular genetic (FICH) methods of genomics. Direct and indirect methods of DNA diagnostics. DNA fingerprinting. Genetic engineering technologies. Cloning. human;	understanding the mechanisms of the impact of harmful environmental factors on the human body at the molecular and genetic level ; use molecular biological and genetic terminology; use special reference material, molecular biological and genetic terminology, electronic genetic databases, etc. possession of the skills of acquiring new knowledge necessary for continuing professional activity and continuing education in the magistracy;	to find and make management decisions related to the organization's workforce; apply the principles of using innovations in the organization;

9. Prerequisite: school course biology and chemistry
10. Post-Requisite: biochemistry,microbiology, physiology
11. literature:
Russian language:
Main:
1. Esirkepov, M. M. Molecular Biology Cell: учеb. "yes," he said. - Karaganda: IP "izd-Vo AKNUR", 2013. - 146 PP.
2. Pritchard, Dorian J. Naglyadnaya Medical Genetics: учеb. posobie / Dorian J. Pritchard, Bruce R. Korf; per. with the English. Ed. N. P. Bochkova. - M. : GEOTAR-media, 2009. - 200 PP.

3. Muminov, T. fundamentals of molecular biology : course lecture. - Almaty : Effect, 2007

Kazakh language

Main:

1. Abilaev, S. A. Molecular Biology and genetics: textbook / S. A. Abilaev. - 2-head. correct., and complete. - Shymkent: LLP "Kitap", 2010. - 388 pages.
2. Kuandykov, E. U. Russian-Kazakh Dictionary of basic molecular genetic terms-Almaty: Evero, 2012. - page 112
3. molecular biology of the cell. 2 t.: textbook / B. Alberts [etc.]; English language. AUD. A. Erzhepov. - 6-head. - Almaty: Era, 2017. - 660 B. S.
4. Nurgazy, K. Sh. molecular biology: textbook / K. Sh. Nurgazy, U. K. Bisenov. - Almaty: Evero, 2016. - 428 pages. S.

Additional literature

1. Kuandykov, E. O. Negizgi molecule - geneticalyk terminderdin oryssha-kazaksha sozdigi: sozdikter / E. O. Kuandykov, U. A. Nuralieva ; KR Densaulyk aktau ministerligi S. Zh. Asfendiyarov atyndagy KazUMU. - Almaty : Evero, 2012. - 112 bet. s.
2. Kazymbet, P. Meditsinalyk zhane biologiyalyk terminderdin tusindirme sozdigi. Vol. 2: sozdik /; Almaty : Evero, 2014. - 312 bet. C

In English:

Main:

1. Alberts B. [et al.]. Molecular Biology of the CELL - 3th ed., 2014
2. Cooper G. M., Hausman R. E. The Cell: a Molecular Approach. - Sinauer Associates, 2015
3. Jorde L. B., Carey J.C., Bamshad M. J. Medical Genetics, Elsevier, 2015

Electronic resource:

1. Abilaev, S. A. Genom zhane genomdyk technologiyalar [Electronic resource] : oku kuraly / S. A. Abilaev, B. D. Seksenbayev ; KR densaulyk aktau ministerligi; Med. BGM Rep. innovatiyalyk technologiyalar ortalygy; OKMFA. - Electron. text data. (3.35 Mb). - Shymkent : B. zh., 2011. - 74 bet
2. Akulenko, L. V. Biology meditsinalyk genetics negizderimen [Electronic resource] : med. ucheschelerr men kollezhderge arn. okulyk / L. V. Akulenko, I. V. Ugarov ; kazak til. aud. K. A. Estemesova. - Electron. text data. (43.6Mb). - Moscow : GEOTAR - Media, 2016. - 416 b. p
. 3. Zholdasov K. T. Zhasushanyn tukym kualau negizinin kurylym men kyzmeti [Electronic resource] :oku kuraly.- Shymkent, 2012.- 1 electronic opt. disk (CD-ROM)
4. Kulbaeva, B. Zh. Methods of genomic technologies [Electronic resource] : lectures / B. Zh. Kulbaeva, M. M. Esirkepov, A. A. Amirbekov. - Electron. text data. (578 MB). - Shymkent : B. I., 2012. - 70 p. e. opt. disc (CD-ROM).
5. Kulbaeva, B. J. Genetic material of the cell. Structure and functions [Electronic resource] : textbook. manual; UCGFA. - Electron. text data. (24.0 MB). - Shymkent : B. I., 2011. - 173 electronic opt. disk (CD-ROM).
6. Kulbaeva, B. J. Informational macromolecules, Proteins and nucleic acids. Structure and functions [Electronic resource] : textbook. stipend /
7. B. Zh. Kulbaeva, M. M. Esirkepov ; Ministry of Health of the Republic of Kazakhstan; Rep. Center for Innovative Technologies med. education and Science; UCGFA. - Electron. text data. (17.7 Mb). - Shymkent : B. I., 2011. - 135 s

Internet resources:

1. Bochkov V. Clinical genetics, M., Medicine, 2012.
2. Ginter E.K. Medical genetics. M, Medicine, 2003
3. Genetics. Textbook for universities/Ed. Academician of the Russian Academy of Medical Sciences V.I. Ivanov – M.: ICC "Akademkniga", 2011-638s.: ill.
4. Introduction to molecular medicine. Study guide/Edited by M.A. Paltsev, M.Meditsina, 2006.
5. Konichev A.S., Sevastyanov G.A. Molecular biology. -.M.: publishing house of the Center "Academy", 2003-400s.
6. Mushkambarov N.N., Kuznetsov S.N. Molecular biology. Textbook for students of medical universities, 3rd ed., Moscow: Nauka, 2016, 660c.
7. Faller D.M., Shields D. Molecular biology of the cell. A guide for doctors. Per with eng. M..: BINOM – Press, 2003, 271s.

8. U. Klug, M. Cummings. Fundamentals of Genetics – Moscow: Technosphere, 2010.
9. Kurchanov.A. Human genetics with the basics of general genetics: studies. manual -St. Petersburg, 2011.
10. Alberts B. , Bray D., Hopkin K. Fundamentals of molecular biology of the cell. Educational publication. 2nd ed., ispr., trans. from engl. 768st. 2018
11. Spirin A.S. Protein biosynthesis, the World of RHK and the origin of life. Internet resources.
12. Spirin A.S. Molecular biology. Ribosome structure and protein biosynthesis. – M.: (electronic textbook).

In English

1. 1. Molecular Biology in Medicine. 1st Edition-Authors: Timothy M. Cox, John Sinclair, Paperback: 340 pages; Publisher: Wiley-Blackwell; 1 edition (January 15, 1997); Language: English; ISBN-10: 0632027851
2. Molecular Medicine: An Introduction 1st Edition-Author: Jens Kurreck, Cy Aaron Stein; Paperback; 404 pages; Publisher: Wiley-Blackwell; 1 edition (February 16, 2016); Language: English-ISBN-10: 3527331891
3. Human Molecular Genetics, Fourth Edition 4th Edition-Author: Tom Strachan, Andrew Read.-Paperback: 781 pages;Publisher: Garland Science; 4 edition (April 2, 2010);Language: English;ISBN-10: 0815341490.
4. Molecular Biology of the Gene (7th Edition) - Author: James D. Watson (Author) - Hardcover: 912 pages;Publisher: Pearson; 7 edition (March 2, 2013);Language: English;ISBN-10: 0321762436
5. Thompson & Thompson. Genetics in Medicine, 8e (Thompson and Thompson Genetics in Medicine) 8th Edition- Authors: Robert L. Nussbaum MD FACP FACMG (Author), Roderick R. McInnes CM MD PhD FRS(C) FCAHS FCCMG, Huntington F Willard PhD. Publisher: Elsevier; 8 edition (June 4, 2015); Language: English- ISBN-10: 1437706967
6. BRS Biochemistry, Molecular Biology, and Genetics (Board Review Series) Sixth Edition-Authors: Michael Lieberman PhD, Rick Ricer MD-
Series: Board Review Series;Paperback: 432 pages.-Publisher: LWW; Sixth edition (September 14, 2013);Language: English.-ISBN-10: 1451175361
7. Medical Genetics, 5e 5th Edition - Authors: Lynn B. Jorde PhD, John C. Carey MD MPH, Michael J. BamshadMD;Paperback: 368 pages. Publisher: Elsevier; 5 edition (September 18, 2015) – Language: English - ISBN-10: 0323188354

1. Department: Department of Social and Humanitarian Disciplines
2. Level of training: Bachelor's degree
3. Bilim bagdarlamalary: 6B10101 General Medicine"
4. Course: 1
5. Name of elective discipline: Basics of Law and Economics
6. Number of credits : 5/2
7. Objective: to form a system of knowledge about the economic and legal laws of the development of society and the problems of its effective functioning.
8. Tasks:
- consideration of the principles and motives of human economic behavior in conditions of limited resources;
- identification of the specifics of economic and legal relations in the Republic of Kazakhstan;
- clarification of the functions and limits of the effectiveness of the market system, as well as the main forms of economic regulation;
- disclosure of political and legal ways to improve Kazakhstan's state-legal mechanism;
- determination of the specifics of the regulatory framework in the field of economics and law.

9.Content of the discipline

Studying the patterns of development of economic and legal relations arising between market entities at the micro, macro and mega levels, between the state and market entities, the state and society, features and priorities of the socially oriented model of the market economy in Kazakhstan. System of law and legislation. The structure of the national economy.

10. Justification of the choice of discipline: This program is designed to provide students with the necessary knowledge, skills and abilities in the discipline, to achieve learning outcomes**11. Learning outcomes:**

- 1) demonstrate knowledge of the main theoretical views accumulated in the scientific heritage on legal and economic problems;
- 2) conduct research to identify state-legal and economic problems in the professional field and present the results for discussion;
- 3) Demonstrate basic economic and legal knowledge through special terminology in medical practice
- 4) apply and use the acquired knowledge in the field of economics and law in practical classes, professional activities
- 5) analyze the features of legal and economic processes in the context of their role in the modernization of Kazakhstan's society;

10. Prerequisites: history of Kazakhstan

11. Post-requirements: Philosophy, sociology and political science, psychology and cultural studies **12. References:**

Basic:

1. Альжанова А.Н. Основы права учеб. пособие / А.Н. Альжанова, К.К. Райханова. - Алматы: Эверо, 2014. - 134 с

2. Правоведение: учеб. пособие. - М.: ГЭОТАР - Медиа, 2013

3. Айдарханов М.Х. Основы экономической теории: учебник. - 3-е изд., перераб. и доп. - Астана: Фолиант, 2012

4. Айдарханов М.Х. Основы экономической теории: учебник. 2012. - 432 б.

5. Таскымбаева С.М., Каратаева Ф.М. Основы экономической теории: учеб.пособие / - Караганда: АҚНҰР, 2017.

Additional:

1. Жанысбеков М.А. Основы антикоррупционной культуры: учебно-методическое пособие / - Караганда: АҚНҰР, 2016. – 198

2. Куратко Д.Ф**.** Предпринимательство: теория, процесс, практика = Entrepreneurship theory, process,practice : учебник / Д. Ф. Куратко. - 10-е изд. - [б. м.] : Ұлттық аударма бюросы, 2019. - 514 стр. : (Рухани жаңғыру)

3. Блак Джон Оксфорд экономика сөздігі = A dictionary of economics / сөздік ; Н. Хашимзаде, М. Гарет. - 5th ed. - Нұр-Сұлтан: Ұлттық аударма бюросы, 2019. - 608 бет. с. : (Рухани Жаңғыру)

4. Шағын бизнестегі менеджмент: кәсіп бастау және венчурді дамыту = Small Business Management: Launching & Growing Entrepreneurial Ventures: оқулық / Г. Лонгенекер [және т.б.]; ред. А. Б. Исембердиева ; Қаз. тіл ауд. А.Қуанышбекова. - 18-ші бас. - Алматы: "Ұлттық аударма бюросы" қоғамдық қоры, 2020. - 704 б. с

Electronicresource:

http://aknurpress.kz/login промо код SDN-28

Основы антикоррупционной культуры [Электронный ресурс] : учебное пособие / под ред. Б. С. Абдрасилова. - Электрон. текстовые дан. (702Мб). - Астана : Акад. Гос. упр. при Президенте РК, 2016. - 176 с 4. Мами К.А., Рогов И.И., Малиновский В.А. РЕСПУБЛИКА КАЗАХСТАН: хроника утверждения конституционализма. – Алматы: Қазақуниверситеті, 2019. – 728 с.

1.Department: Normal anatomy.

2.Level of education: bachelor

3.Educational program: 6B10101-«General medicine»

4.Course: 2

5.Name of elective discipline: «Anatomy»

6.Number of credits: 5

7.Objective: To study the structure, topography and functions of the organs and organ systems, taking into account age, gender, individual characteristics, anatomical and topographic relationships of organs and apply the knowledge gained in clinical departments.

8.Taks: Formation of social, personal and professional competencies, the basis of which is knowledge of the structural organization of tissues and organs and the application of this knowledge to assess the functional state of the body. To reveal the essence of the main anatomical characteristics of the human body, its gender and age characteristics.

9.Discipline review: Anatomical characteristics of organs and systems in the norm in adults and children: nervous system, sensory organs, cardiovascular, hematopoiesis, immune, endocrine, digestive, respiratory systems, skin and its derivatives, musculoskeletal, urinary and reproductive systems. Blood supply, venous outflow, innervation. Age, gender and individual characteristics.

10.Foundation for the choice of discipline: Anatomy is the discipline that forms the foundation of medical knowledge. Anatomy studies the structure of the organs of the human body, taking into account age, gender and individual characteristics, the topographic relationship of organs, without mastering which the student cannot begin to study clinical disciplines.

11.Learning outcomes:

Knowledge and understanding (demonstrate knowledge and understanding in the field of study, including elements of the most advanced knowledge in this field):

LO 1. Demonstrates knowledge of the structure of organs and systems.

Application of knowledge and understanding (apply this knowledge and understanding at a professional level, formulate arguments and solve problems in the field of study):

LO 2. Demonstrates knowledge of the topography of organs and systems.

LO 5. Applies knowledge of the structure and topography of organs and systems to master the skills of physical examination, comparison of norm and pathology in visual diagnostics.

Formation of judgments (to collect and interpret information for the formation of judgments, taking into account social, ethical and scientific considerations):

LO 3. Able to visually demonstrate and illustrate understanding of the structure and topography of organs and systems.

Communication skills (to communicate information, ideas, problems and solutions to both specialists and non-specialists):

LO 4. Able to visually and logically present information in the form of a presentation.

12. Prerequisites – basics of anatomy.

13. Postrequisites – general pathology (pathological anatomy, pathological physiology)**.**

14. Literature

Main:

1. Netter F. H.Atlas of Human Anatomy. Saunders / Elsevier, 2014
2. Drake R. L., Vogl A. W., Mitchell A. W. M. Gray's Anatomy for Students Churchill Livingstone, Elsevier, 2014
3. Chaurasia's B.D. Human Anatomy : Textbook in 4 vol. Vol. 2 : Lower limb, Abdomen and pelvis / B. D. Chaurasia's. - 7th ed. - [s. l.] : CBS Publishers & Distributors Pvt Ltd, 2016. - 498
4. Chaurasia's B.D. Human Anatomy : Textbook in 4 vol. Vol. 1 : Upper limb and thorax / B. D. Chaurasia's. - 7th ed. - [s. l.] : CBS Publishers & Distributors Pvt Ltd, 2016. - 328 p

Additional:

5. Chaurasia's B.D. Human Anatomy : Textbook in 4 vol. Vol. 4 : Brain-neuroanatomy / B. D. Chaurasia's. - 6 th ed. - [s. l.] : CBS Publishers & Distributors Pvt Ltd, 2016. - 206 p
   Chaurasia's B.D. Human Anatomy : Textbook in 4 vol. Vol. 3 : Head and neck / B. D. Chaurasia's. - 7th ed. - [s. l.] : CBS Publishers & Distributors Pvt Ltd, 2016. - 338 p

Electronic resources

Repository SKMA http://lib.ukma.kz/repository/

Republican interuniversity electronic library **http://rmebrk.kz/**

Student advisor http://www.studmedlib.ru/

1.Department: Normal anatomy.

2.Level of education: bachelor

3.Educational program: 6B10101-«General medicine»

4.Course: 1

5.Name of elective discipline: «Basics of anatomy»

6.Number of credits: 3

7.Objective: To study the structure, topography and functions of the organs of the musculoskeletal system, taking into account age, gender, individual characteristics, anatomical and topographic relationships of organs and apply the knowledge gained in clinical departments.

8.Taks: Formation of social, personal and professional competencies, the basis of which is knowledge of the structural organization of tissues and organs and the application of this knowledge to assess the functional state of the body. To reveal the essence of the main anatomical characteristics of the human body, its gender and age characteristics.

9.Discipline review: General characteristics of tissues, organs, body systems. stages of embryogenesis. Anatomical nomenclature. Planes and axes. Components of the musculoskeletal system. The structure of the bones. Chemical composition and structural unit of bone. Classification of bones. Types of bones connection. Biomechanics and classification of joints. Structure and classification of muscles. Auxiliary apparatus of muscles. Blood supply, venous outflow, innervation. Age, gender and individual characteristics of the musculoskeletal system.

10.Foundation for the choice of discipline: Anatomy is the discipline that forms the foundation of medical knowledge. Anatomy studies the structure of the organs of the human body, taking into account age, gender and individual characteristics, the topographic relationship of organs, without mastering which the student cannot begin to study clinical disciplines.

11.Learning outcomes:

Knowledge and understanding (demonstrate knowledge and understanding in the field of study, including elements of the most advanced knowledge in this field):

LO 1. Demonstrates knowledge of the structure of bones, joints and muscles.

Application of knowledge and understanding (apply this knowledge and understanding at a professional level, formulate arguments and solve problems in the field of study):

LO 4. Uses knowledge of the structure of bones and joints to compare the norm and pathology in imaging diagnostics.

LO 5. Apply knowledge of the structure of bones, joints and muscles in solving situational and test tasks.

Formation of judgments (to collect and interpret information for the formation of judgments, taking into account social, ethical and scientific considerations):

LO 2. Able to demonstrate knowledge of the blood supply and innervation of the upper and lower extremities.

Communication skills (to communicate information, ideas, problems and solutions to both specialists and non-specialists):

LO 3. Able to visually and logically present information in the form of a presentation.

12. Prerequisites - school course in biology, human anatomy, molecular biology and medical genetics.

13. Postrequisites – morphology and physiology.

14. Literature

Main:

6. Netter F. H.Atlas of Human Anatomy. Saunders / Elsevier, 2014
7. Drake R. L., Vogl A. W., Mitchell A. W. M. Gray's Anatomy for Students Churchill Livingstone, Elsevier, 2014
8. Chaurasia's B.D. Human Anatomy : Textbook in 4 vol. Vol. 2 : Lower limb, Abdomen and pelvis / B. D. Chaurasia's. - 7th ed. - [s. l.] : CBS Publishers & Distributors Pvt Ltd, 2016. - 498
9. Chaurasia's B.D. Human Anatomy : Textbook in 4 vol. Vol. 1 : Upper limb and thorax / B. D. Chaurasia's. - 7th ed. - [s. l.] : CBS Publishers & Distributors Pvt Ltd, 2016. - 328 p

Additional:

10. Chaurasia's B.D. Human Anatomy : Textbook in 4 vol. Vol. 4 : Brain-neuroanatomy / B. D. Chaurasia's. - 6 th ed. - [s. l.] : CBS Publishers & Distributors Pvt Ltd, 2016. - 206 p

Chaurasia's B.D. Human Anatomy : Textbook in 4 vol. Vol. 3 : Head and neck / B. D. Chaurasia's. - 7th ed. - [s. l.] : CBS Publishers & Distributors Pvt Ltd, 2016. - 338 p

Electronic resources

Repository SKMA http://lib.ukma.kz/repository/

Republican interuniversity electronic library **http://rmebrk.kz/**

1. Department: Department "Introduction to the clinic"
2. Education level: Bachelor course
3. Educational program: «6B10101» «General medicine»
4. Course: 2
5. Name of the elective discipline: Module fundamentals of clinical and instrumental research
6. Number of credits: 9/6
7. Goal: Formation and presentation of knowledge about the basic methods, general principles and possibilities of radiation diagnostics of human organs and systems in the conditions of a medical institution of modern practical healthcare of the Republic of Kazakhstan, About the organization of the work of the treatment room, radiological department and algorithms for providing pre-medical care. Consolidation of core competencies, acquisition of practical skills necessary for the organization of medical care for middle-level employees.

8. Responsibilities:- Provides patient-oriented care in the field of biomedical, clinical, epidemiological and socio-behavioral sciences for the most common diseases.

- Carries out its activities within the framework of the legislation of the Republic of Kazakhstan in the field of healthcare, is guided by their practical activities to ensure optimal medical care
- Adheres to the rules of ethics, deontology and subordination, demonstrates interpersonal and communication skills that lead to effective information exchange and cooperation with patients, their families and medical professionals
- Performs diagnostics, provides qualified and urgent medical care in emergency and life-threatening situations.
- It works on electronic databases of the healthcare system of the Republic of Kazakhstan, provides documentation of the processes of providing medical services

9. **Content of the discipline:** The study of the module forms the skills and principles of working with patients in the clinic, the skills of owning pre-medical medical care for monitoring and caring for patients, carrying out manipulations. Allows you to study theoretical and practical issues of radiation diagnostics using the latest technologies, methods of X-ray, radionuclide, ultrasound, visual examination and protection of patients and staff.
10. Basics of choosing a discipline: This program is designed to provide students with the necessary knowledge, skills and abilities in the subject, to achieve learning outcomes.
11. Learning outcomes:
1) Applies knowledge, skills and abilities on modern methods of diagnosis of diseases of internal organs and medical care, analyzes radiographs of organs and systems in standard and special projections and determines anatomical features. It can monitor the vital signs of the patient, identify the anatomical image of all human organs on radiographs, computer resonance tomograms, ultrasound sonograms, scans.
2) Knows and can list the structure of a medical institution and the basics of the work of instrumental diagnostic, radiological departments and a treatment room.
3) Can administer medications and contrast agents and describe algorithms for pre-medical care, determine the sequence of radiation therapy.
4) Uses documents related to regulatory legal acts in the work, is able to apply individual judgments on methods of radiation diagnostics, use individual judgments and collected information to identify indications and contraindications to methods of radiation diagnostics.
5) Adheres to the rules of ethics, deontology, is able to assess the functional conditions of patients and explains the algorithms of laboratory, instrumental and radiation research methods.
6) Is able to distinguish between types of systemic diseases (respiratory organs, cardiovascular system), mortality and demonstrates his knowledge, judgment and skills in planning and conducting radiation research methods of patients, conducts radiological studies for radiation reactions and lesions.
10. Prerequisites: Introduction to the profession, Basics of morphology and Physiology
11. Post - Requesitter: Propaedeutics of internal diseases, Visual diagnostics

12. Literature:

Main:

1. Клиникаға кіріспе. Том 1 [Мәтін] :оқулық / С. М. Кабиева [ж.б.] ; ҚР денсаулықсақтау және әлеуметтік даму министрлігі. ҚММУ. - Алматы :Эверо, 2016. - 287 б. с
2. Каркабаева, А. Д. Клиникаға кіріспе-2. 1 -бөлім [Мәтін] :оқуқұралы / А. Д. Каркабаева, Н. Н. Теляева. - Астана : [б. и.], 2017. - 152 бет. с.
3. Каркабаева, А. Д. Клиникаға кіріспе-2. II-бөлім [Мәтін] :оқуқұралы / А. Д. Каркабаева, Н. Н. Теляева. - [Б. м.] : Астана, 2017. - 208 бет. с
4. Толекова, С. З. Клиникаг акіріспе [Мәтін] :оқуқұралы / С. З. Толекова. - Қарағанды : ЖК "Ақнұр", 2013. - 244 бет. с
5. Теляева, Н. Н. Введение в клинику -2. Ч. 1 [Текст] : учеб. пособие / Н. Н. Теляева, А. Д. Каркабаева. - Астана : [б. и.], 2017. - 214 с.
6. Теляева, Н. Н. Введение в клинику -2. Ч. II [Текст] : учеб. пособие / Н. Н. Теляева, А. Д. Каркабаева. - Астана : [б. и.], 2017. - 210 с
7. Кабиева, С. М. Введение в клинику. Т. 1. [Текст] : учебник / С. М. Кабиева. - Алматы :Эверо, 2016. - 304 с
8. Kabiyeva, S. Introduction in clinic. Volume 1 [Текст] : textbook / S. Kabiyeva. - Almaty : "Evero" , 2016. - 263 p.
9. Лучевая диагностика : учебник / М-во образования и науки РФ ; под ред. Г. Е. Труфанова. - ; Рек. ГОУ ВПО "Первый МГМУ им. И. М. Сеченова". - М. : ГЭОТАР - Медиа, 2015. - 496 с.
10. Сәулелі диагностика: оқулық / РФ білім және ғыл. министрлігі ; Г. Е. Труфановтың редакциясымен; қазақ тіліне ауд. А. Б. Ахметбаева; жауапты ред. А. Қ. Ахметбаева. - ; И. М. Сеченов атындағы ГОУ ВПО "Бірінші Москва мемл. мед. ун-ті" ұсынған. - М. : ГЭОТАР - Медиа, 2014. - 576 бет. с.
11. Лучевая диагностика : учебник / М-во образования и науки РФ ; под ред. Труфанова Г. Е. - ; Рек. ГОУ ВПО «Первый МГМУ им. И. С. Сеченова» .–М. : ГЭОТАР – Медиа, 2013. – 496 с
12. Лучевая терапия: учебник / М-во образования и науки РФ ; под ред. Г. Е. Труфанова. - Рек. ГОУ ВПО "Первый Моск. гос. мед. ун-т им. И. М. Сеченова". - М. : ГЭОТАР - Медиа, 2013. - 208 с.
13. Илясова, Е. Б. Лучевая диагностика [Текст] : учеб. пособие / Е. Б. Илясова, М. Л. Чехонацкая, В. Н. Приезжева. - М. : ГЭОТАР - Медиа, 2013. - 280 с. : ил
14. Лучевая диагностика заболеваний органов дыхания и средостения [Текст] : учебное пособие / Е. Б. Бекмуратов [и др.] ; М-во здравоохранения и социального развития РК. ЮКГФА. - Шымкент : [б. и.], 2016. - 104 с

1. **Department**: “Medical Biophysics & Information Technology”
2. **Level of education:** Undergraduate
3. **Educational program:** "General Medicine"
4. **Course**: 2
5. **Name of elective discipline**: "Biostatistics"
6. **Number of credits:** 3
7. **Learning goal:** to form theoretical knowledge of the basics of biostatistics, skills of applying statistical methods for data processing and working with special software, skills of scientific analysis and their practical application.
8. **Discipline content:** Descriptive statistics: frequency distribution, measures of central tendency and scatter. Charts. Testing statistical hypotheses. The difference between two sample means: Student t-tests, Mann-Whitney test, Wilcoxon test. Analysis of variance: F-test, Kruskal-Wallis test. Contingency tables: $\chi 2$-test, Yates' correction, McNemar test. Correlation analysis: Pearson correlation coefficient, Spearman's rank correlation coefficient.
9. **Learning objectives:**

- the formation of a knowledge base on modern statistical methods for processing biological and medical data;
- the formation of the basic skills of using modern statistical methods for processing biological and medical data.

10. **Justification of the choice of discipline:**

In health care and clinical medicine, various statistical concepts are often used when making decisions on issues such as: clinical diagnosis, prediction of the possible results of the implementation of certain programs in this group of the population, prediction of the course of the disease in an individual patient, selection of the appropriate program for this group of the population or choice of treatment for a particular patient, etc. Statistics are used in daily laboratory practice.

Knowledge of statistics has become important for understanding and critically evaluating reports in modern medical publications. Thus, knowledge of the principles of statistics is absolutely necessary for planning, conducting and analyzing research on the assessment of various situations and trends in health care, as well as for carrying out scientific research in the field of medical biology, clinics and health care.

Biostatistics is a scientific branch related to the development and use of statistical methods in scientific research in medicine and health care. The introduction of the principles of evidence-based medicine into practice dictates the need of an understanding of biostatistics to a modern medical graduate.

The need to improve the culture of statistical analysis of medical data, both in theoretical studies and in practical activities of a doctor, is dictated, first of all, by modern achievements in the issues of data presentation and systematization. It is especially important for the student to be able to use the statistical software STATISTICA and to adequately interpret the results obtained.

11. **Learning outcomes:**

1) Knowledge and understanding:

- demonstrates knowledge and understanding of biostatistical methods when describing medical research data and assessing the significance of differences in derived quantities characterizing the effectiveness of preventive, diagnostic and therapeutic measures and procedures.

2) Application of knowledge and understanding:

- applies statistical methods to identify patterns, establish causal relationships, in assessing the significance of differences in indicators;
- uses special software for processing medical data.

3) Formation of judgment

- analyzes the results of medical research and screening programs, draws conclusions.

4) Communication skills

- knows how to convey information received during the search and processing to other users.

5) Learning skills and learning ability

- applies scientific principles, methods and knowledge in medical practice and research;
- capable of continuous self-education and development.

12. Pre-requisites: ICT
13. Post requisites: hygiene and epidemiology
14. Bibliography:

- Main

1. Койчубеков Б. К. Биостатистика. уч. пособие / Б.К. Койчубеков. - Алматы: Эверо, 2016. - 152 с.
2. Бөлешов М.Ә. Медициналық статистика: оқулық.-Эверо, 2015
3. Койчубеков Б.К. Биостатистика: учебное пособие.-Эверо, 2014
4. Койчубеков Б.К. Биостатистикаға кіріспе курсы: оқу құралы.-Эверо, 2014
5. Раманқұлова А.А. Биостатистика.-Ақ-Нұр, 2013

- *Supplementary*

1. Мысалдар мен тапсырмалардағы биостатистика: оқу-әдістемелік құрал.- Алматы: Эверо, 2013.
2. Биостатистика в примерах и задачах: уч.-методическое пособие - Алматы: Эверо, 2012. - 80 с
3. Биостатистика в примерах и задачах: уч.-метод. пособие /Б.К. Койчубеков.- Алматы: Эверо, 2012

4. Rosner Bernard Fundamentals of Biostatistics: Texbook/ B.Rosner.-8 nd ed.:GENGAGE learning, 2016

1. Department: Microbiology, virology and immunology
2. Level of training: Bachelor's degree
3. Specialty: "General Medicine"
4. Course: 3
5. Name of the elective discipline: "Immune response"
6. Number of credits: 5
7. Purpose: The purpose of mastering the discipline is to acquire knowledge about the development and structural and functional organization of the human immune system in normal conditions and in immunopathology, as well as to train students to apply this knowledge in medical and diagnostic activities.
8. Tasks: to form a system of knowledge about the immune system as one of the most important systems in the body; to form a system of knowledge about the role of immunogenetic factors in the development and functioning of the immune system; develop knowledge, skills and abilities to assess various parts of innate and acquired immunity, allowing to analyze the immune status of a person; develop knowledge, skills and abilities to identify the main immune disorders that underlie the immunopathological process, and their prevention; to form the skills of studying scientific literature, preparing and delivering a report (presentation) on certain topics of immunology; develop team communication skills.
9. The content of the discipline. Fundamentals of immunology. Innate natural immunity. complement system. Acquired adaptive immunity. immune response. Recognition of the antigen, reactions aimed at its elimination. Formation and implementation of cellular and humoral immune response. regulation of the immune response. Immunoglobulins. Cytokines-regulators and effectors of the immune response. Interferons. cell adhesion molecules. Major histocompatibility complex: structure and function.
10. Rationale for the choice of discipline: In our environment there is a huge variety of pathogenic microbes - viruses, bacteria, fungi, protozoa - and multicellular parasites. They are capable of causing diseases and, if they multiply uncontrollably in the tissues of the body, eventually lead to its death. However, normally, thanks to the immune system that protects us from pathogenic microbes, most infections are short-term and with little or no adverse health effects.
Since microorganisms exist in many forms, the body has a wide range of anti-infective resistance factors and forms of immune response. First of all, the external integuments of the body serve as an effective barrier to most infectious agents - only a very small number of pathogen species can penetrate intact skin. However, many pathogenic microbes are able to penetrate the epithelium of the digestive and genitourinary systems, infect the nasopharynx and lungs. Some pathogens, such as Plasmodium malaria and hepatitis B virus, cause infection only when they are directly in the blood.
Which form of immune response will be effective depends largely on the location of the infection and the type of pathogen. Most importantly, microbes penetrate into the cells of the host organism or not. In order to eradicate an intracellular infection—which is caused by all viruses, some bacteria, and some parasitic protozoa—the immune system must recognize and destroy the infected cells. In the case of extracellular reproduction of an infecting agent in tissues, fluids or body cavities - this is typical for many bacteria and larger pathogens - the immune response is completely different. During the development of infection, however, even intracellular pathogens move with the blood and tissue fluid to reach the appropriate target cells, and at this time they are vulnerable to those factors of the immune system that are mainly designed for extracellular pathogens.
Students need to know the basics of the immune response and apply this knowledge in practice.
11. Learning outcomes (competencies):

LO 1	Applies skills in patient-centered care, uses interpersonal and communication skills with patients, his environment and colleagues in compliance with bioethical principles and the rights of the patient.

LO 4	Practice outpatient reception, diagnosis, treatment, dynamic monitoring and rehabilitation of children and adults, including pregnant women
LO 6	Analyzes the results of screening programs, evaluates the effectiveness of the preventive effects of the most common diseases in adults and children
LO 8	Assesses the clinical condition, levels of functional organ failure, complication of the disease requiring emergency care and determination of indications for hospitalization
LO 10	Organizes medical and social assistance, conducts preventive and recreational activities among the population

12. Prerequisites: Microbiology and Immunology

13. Postrequisites: Infectious diseases

14. Literature

1. Kuby immunology. Punt, Jenni; Stranford, Sharon A.; Jones, Patricia P.; Owen, Judith A. 2019
2. Abbas, Abul K., and Andrew Lichtman. *Cellular and Molecular Immunology*. 6th ed. Philadelphia, PA: Saunders, 2005. ISBN: 9781416023890.
3. Rosen, Fred, and Raif Geha. *Case Studies in Immunology: A Clinical Companion*. 4th ed. New York, NY: Garland Pub., 2004. ISBN: 9780815341024. (Paperback)
4. Janeway, Charles A., et al. *Immunobiology: The Immune System in Health and Disease*. New York, NY: Garland Science, 2004. ISBN: 9780443073106.

1. **The Department:** Biology and Biochemistry
2. **Program:** Undergraduate
3. **Specialty:** General Medicine
4. **Year:** 2
5. **Name of the elective disciplines:** Medical Biochemistry
6. **Number of academic credits:** 7
7. **Goal:** to form students a holistic understanding of the molecular mechanisms and regulation of the main metabolic processes, the characteristics of their flow in human organs and tissues, the use of biochemical indicators, their competent interpretation for diagnosing and monitoring the effectiveness of treatment.
8. **Objectives:**

- to form students' understanding of the role of biological chemistry in the professional activities of future doctors;
- to give of the chemical structure, properties and biological functions of proteins, carbohydrates, lipids and other biologically active compounds in living organisms;
- to form of the biochemical patterns of energy transformation, metabolism and regulation of metabolic processes;
- to give of the peculiarities of the molecular organization and metabolism of the most important organs and tissues of the body;
- to form of modern biochemical approaches for diagnosing diseases and correcting metabolic disorders.

9. Justification of the choice of discipline: Practical medicine requires the training of highly qualified medical and pharmaceutical personnel, whose activities are aimed at improving the health of the population.

In this regard, it is advisable for future doctors to study the discipline "medical biochemistry", which allows you to get a holistic view of the metabolic processes of the body, the mechanisms of disease.

Medical biochemistry is one of the basic basic medical disciplines that studies the chemical processes underlying the vital activity of cells, tissues and the organism as a whole. The main focus of teaching biochemistry is the study of metabolic processes and features of metabolism and

its regulation in the human body to understand the causes and consequences of their disorders in pathology.

10. Learning outcomes (competencies)

	Knowledge (cognitive sphere)	**Skills and skills (psychomotor sphere)**	**Personal and professional competencies (relationships)**
	Demonstrates knowledge of the subject and tasks of medical biochemistry for professional activity. Knows the methods of biochemical analyzes. Describes the molecular mechanisms of flow and regulation of metabolic processes. Outlines the basic principles of bioenergy and nutrition biochemistry. Calls the mechanisms of molecular disease, the principles of their diagnosis. He knows the basic principles of the use of biochemical research methods in practice, the reference values of the main biochemical parameters.	Able to work on modern equipment: biochemical analyzer, spectrophotometer, photoelectric colorimeter, electrophoretic installation, centrifuge, thermostat, urine analyzer when conducting biochemical analyzes. Able to work and search for the necessary data from a special reference material. Interprets the results of laboratory and instrumental studies of biological body fluids. Able to determine the reference values of the main biochemical parameters of biofluids.	Able to present their own judgments and critically analyze the results of educational experiments. Able to defend their own judgments in practical exercises, at meetings of the student circle, student scientific conferences, etc. When planning and conducting training experiments, he is able to explain the observed facts and phenomena, their causal relationships. Able to work in a team, to make a collective decision. Able to transfer to students, teachers, examiners the knowledge gained in the process of studying the discipline.

11. Prerequisites: morphology and physiology, microbiology and immunology, medical biochemistry, fundamentals of morphology and physiology2

12. Post requisites: pharmacology, propedeutics of internal diseases

13. Literature:

Medical biochemistry:

In English

1. Baynes J.W., Dominiczak M.H. Medical Biochemistry, Mosby Elsevier, 2014
2. Ferrier, Denise R. Biochemistry: Lippincott`s Illustrated Reviewes: textbook/Denise R .Ferrier. -7th ed.- Philadelphia: Wolters Kluwer, 2017.

Electronic resources: Medical biochemistry
1. Biochemistry [Electronic resource]: a textbook for universities / ed. E.S. Severin. - 5th ed. isp. and add. - Electron. text given. (66.3 MB) - M.: GEOTAR - Media, 2013. - 768 p. email wholesale disk (CD-ROM).

2. Biochemistry [Electronic resource]: textbook / edited by E.S. Severin. - 5th ed. - Electron. text given. (66.4 MB) - M.: Publishing group "GEOTAR-Media", 2011. - 768 p. email wholesale disk (CD-ROM
3. Biochemistry with exercises and tasks [Electronic resource]: studies. for universities / E.S. Severin [et al]; by ed. E.S. Severin. - Electron. text given. (58.2 MB) - M.: GEOTAR - Media, 2010. - 384 p. email wholesale Disk (CD-ROM): Il. - (Electronic textbook).

1. Department: Microbiology, virology and immunology
2. Level of training: Bachelor's degree
3. Specialty: "General Medicine"
4. Course: 3
5. Name of the elective discipline: "Immune response"
6. Number of credits: 5
7. Purpose: The purpose of mastering the discipline is to acquire knowledge about the development and structural and functional organization of the human immune system in normal conditions and in immunopathology, as well as to train students to apply this knowledge in medical and diagnostic activities.
8. Tasks: to form a system of knowledge about the immune system as one of the most important systems in the body; to form a system of knowledge about the role of immunogenetic factors in the development and functioning of the immune system; develop knowledge, skills and abilities to assess various parts of innate and acquired immunity, allowing to analyze the immune status of a person; develop knowledge, skills and abilities to identify the main immune disorders that underlie the immunopathological process, and their prevention; to form the skills of studying scientific literature, preparing and delivering a report (presentation) on certain topics of immunology; develop team communication skills.
9. The content of the discipline. Fundamentals of immunology. Innate natural immunity. complement system. Acquired adaptive immunity. immune response. Recognition of the antigen, reactions aimed at its elimination. Formation and implementation of cellular and humoral immune response. regulation of the immune response. Immunoglobulins. Cytokines-regulators and effectors of the immune response. Interferons. cell adhesion molecules. Major histocompatibility complex: structure and function.
10. Rationale for the choice of discipline: In our environment there is a huge variety of pathogenic microbes - viruses, bacteria, fungi, protozoa - and multicellular parasites. They are capable of causing diseases and, if they multiply uncontrollably in the tissues of the body, eventually lead to its death. However, normally, thanks to the immune system that protects us from pathogenic microbes, most infections are short-term and with little or no adverse health effects.
Since microorganisms exist in many forms, the body has a wide range of anti-infective resistance factors and forms of immune response. First of all, the external integuments of the body serve as an effective barrier to most infectious agents - only a very small number of pathogen species can penetrate intact skin. However, many pathogenic microbes are able to penetrate the epithelium of the digestive and genitourinary systems, infect the nasopharynx and lungs. Some pathogens, such as Plasmodium malaria and hepatitis B virus, cause infection only when they are directly in the blood.
Which form of immune response will be effective depends largely on the location of the infection and the type of pathogen. Most importantly, microbes penetrate into the cells of the host organism or not. In order to eradicate an intracellular infection—which is caused by all viruses, some bacteria, and some parasitic protozoa—the immune system must recognize and destroy the infected cells. In the case of extracellular reproduction of an infecting agent in tissues, fluids or body cavities - this is typical for many bacteria and larger pathogens - the immune response is completely different. During the development of infection, however, even intracellular pathogens move with the blood and tissue fluid to reach the appropriate target cells, and at this time they are vulnerable to those factors of the immune system that are mainly designed for extracellular pathogens.
Students need to know the basics of the immune response and apply this knowledge in practice.

11. Learning outcomes (competencies):

LO 1	Applies skills in patient-centered care, uses interpersonal and communication skills with patients, his environment and colleagues in compliance with bioethical principles and the rights of the patient.
LO 4	Practice outpatient reception, diagnosis, treatment, dynamic monitoring and rehabilitation of children and adults, including pregnant women
LO 6	Analyzes the results of screening programs, evaluates the effectiveness of the preventive effects of the most common diseases in adults and children
LO 8	Assesses the clinical condition, levels of functional organ failure, complication of the disease requiring emergency care and determination of indications for hospitalization
LO 10	Organizes medical and social assistance, conducts preventive and recreational activities among the population

12. Prerequisites: Microbiology and Immunology

13. Postrequisites: Infectious diseases

14. Literature

1. Kuby immunology. Punt, Jenni; Stranford, Sharon A.; Jones, Patricia P.; Owen, Judith A. 2019
2. Abbas, Abul K., and Andrew Lichtman. *Cellular and Molecular Immunology*. 6th ed. Philadelphia, PA: Saunders, 2005. ISBN: 9781416023890.
3. Rosen, Fred, and Raif Geha. *Case Studies in Immunology: A Clinical Companion*. 4th ed. New York, NY: Garland Pub., 2004. ISBN: 9780815341024. (Paperback)
4. Janeway, Charles A., et al. *Immunobiology: The Immune System in Health and Disease*. New York, NY: Garland Science, 2004. ISBN: 9780443073106.

1. **Department:** Microbiology, Virology and Immunology
2. **Level of training:** Bachelor's degree
3. **Specialty:** "General medicine"
4. **Course:** 4
5. **Name of the elective discipline:** "Clinical Microbiology"

6. Number of credits: 5

7. **Target:** the formation of students' knowledge about the role of opportunistic microorganisms in human pathology, the importance of immunity and the normal microflora of the body, the study of microbiological aspects of the problems of nosocomial infections, dysbiosis, drug resistance of microbes, as well as gaining practical skills in diagnosing, preventing and treating diseases caused by opportunistic microorganisms.
8. **Tasks:**

Based on this, the tasks of the CM are as follows:

- study of the biology and role of OPM in the etiology and pathogenesis of human infectious diseases, as well as in maintaining human health, since they are normal inhabitants of the body;
- development and use of methods for microbiological diagnostics, specific therapy and prevention of microbial diseases found in non-infectious hospitals;
- study of microbiological aspects of the problems of nosocomial infections (NI), dysbacteriosis, drug resistance (DR) of microorganisms;
- microbiological substantiation and control of antimicrobial measures in medical institutions (MPIs).

9. **Rationale for the choice of discipline:** Clinical microbiology is one of the most important areas of knowledge that is widely used in the work of a doctor.

The discipline "Clinical Microbiology" as a section of medical microbiology, conducts microbiological research in the clinic aimed at studying the etiology, pathogenesis and immunity of infectious processes occurring in a non-infectious clinic, the sanitary and bacteriological state of the hospital environment, assessing the epidemic situation in the hospital based on bacteriological studies of materials obtained from patients, and the nature of the microflora isolated from the hospital environment. One of the important sections of clinical microbiology is the development of a strategy and tactics for the use of chemotherapeutic drugs in a hospital,

recommendations for rational antibiotic therapy of patients based on the study of the sensitivity of pathogens to antibiotics. The main aspect of clinical microbiology is the interpretation of the results of laboratory research. It is especially difficult to interpret the results in the diagnosis of diseases caused by opportunistic pathogens microorganisms (OPM). In recent years, there has been an increase in the role of OPM in infectious pathology. Clinical microbiology is of great importance in the practice of a medical worker for the proper organization of microbiological laboratories and the observance of sanitary and hygienic standards in medical institutions.

Currently, the problem of purulent-inflammatory diseases in a non-infectious clinic is one of the priorities in practical healthcare. Modern infectious pathology is characterized by an increase in the frequency and proportion of purulent infections, as well as the emergence of new pathogens with altered and previously unknown properties.

Students need knowledge about timely microbiological diagnostics nosocomial infections.

10. Learning outcomes (competencies):

LO 1	Applies skills in patient-centered care, uses interpersonal and communication skills with patients, his environment and colleagues in compliance with bioethical principles and the rights of the patient.
LO 4	Practice outpatient reception, diagnosis, treatment, dynamic monitoring and rehabilitation of children and adults, including pregnant women
LO 5	Develops a plan for laboratory and instrumental examinations of patients with the most common diseases of childhood and adulthood in accordance with current clinical guidelines, interprets their results and formulates a diagnosis in accordance with ICD-10 when a disease is detected
LO 8	Assesses the clinical condition, levels of functional organ failure, complication of the disease requiring emergency care and determination of indications for hospitalization
LO 10	Organizes medical and social assistance, conducts preventive and recreational activities among the population

	Knowledge (cognitive sphere)	**Skills and abilities (psychomotor sphere)**	**Personal and professional competencies (relationships)**
	- Knows about the key directions of development of modern clinical microbiology, about the most socially important problems facing clinical microbiology; - Knows the goals and objectives of clinical microbiology and its significance for the future specialty - Knows the classification, morphology and physiology of microorganisms and viruses, their impact on human health. - Knows modern principles and methods of diagnosing purulent-inflammatory diseases.	- Knows how to properly take and send the test material for microbiological research . - Possesses the skills of preparing a native smear and staining smears using simple and complex methods and conducting microscopic studies. - Able to isolate a pure culture of bacteria and test sensitivity to antibiotics. - Able to consider biochemical and genetic mechanisms of formation of antibiotic resistance of microorganisms from a scientific point of view. - Able to conduct a qualitative and quantitative assessment of the	- Formation of students' skills of joint work with chief physicians of hospitals, epidemiologists, chief nurses and heads of bacteriological laboratories in considering microbiological aspects of the etiology, pathogenesis and immunity of microbial diseases in a non-infectious clinic that develops and implements methods for their laboratory diagnosis, specific therapy and prevention. - Collects information on the latest orders and decrees in the field of healthcare of the Republic of Kazakhstan and data from Internet resources for

	- Knows the molecular genetic basis of the most socially significant nosocomial infections. - Knows the principles of prevention and control of nosocomial infection. - Knows the rules and methods of obtaining biomaterial for microbiological (bacteriological, virological, mycological, parasitological) and serological research methods. - Knows the structure and principles of operation of modern laboratory instruments.	ecological role and bacteriological study of opportunistic microorganisms. - Able to evaluate and interpret the results of microbiological studies. - Be able to collect human biomaterial	organization in medical institutions to comply with sanitary and hygienic standards and the proper organization of microbiological laboratories

11. Prerequisites: Microbiology and Immunology, Hygiene and Epidemiology
12. Postrequisites: Infectious diseases
13. Literature

1. Borisov, L.B. Medical microbiology, virology, immunology / L.B. Borisov. - 5th ed., Rev. – M.: MIA, 2016. – 792 p.: ill.
2. A.P. Dmitriev, M.V.Baev, N.S.Zubriyanova, Moshenskaya O.A. Hygienic aspects of the prevention of nosocomial infections: a teaching aid.
3. Community-acquired infection : textbook / V.L. Osipova M.: GEOTAR - Media , 2012. - 240 p.: ill.

1. Department: Pharmacology, Pharmacotherapy and Clinical Pharmacology
2. Level of training: baccalaureate
3. OP: "General Medicine"
4. Course: 5
5. Name of elective discipline: Clinical Pharmacology
6. Number of loans: 4
7. Purpose: to develop students' clinical thinking skills, the choice of medicines in adults and children with the main syndromes of internal diseases.
8. Tasks:
• teach the dosage regimen of drugs taking into account the individual characteristics of the patient;
• teach to predict side effects of drugs based on the individual characteristics of the patient;
• teach to evaluate the possible interactions of drugs taking into account the individual characteristics of the patient;
9. Content of the discipline: Clinical pharmacology is a medical discipline that scientifically studies the effects of drugs on the human body in order to increase the efficiency and safety of the clinical use of drugs. The main sections of clinical pharmacology are pharmacodynamics - the study of the totality of the effects of a drug substance and its mechanisms of action, and pharmacokinetics - the study of the routes of administration, distribution, biotransformation and excretion of drugs from the body. It studies side effects, especially the effects of drugs depending on gender, age, drug interactions when used together.
10. Justification of the choice of discipline: Clinical pharmacology is a science that studies the interaction of drugs with the body of a healthy and sick person, develops principles and methods for studying the effects of pharmacological drugs in a clinical setting, and is the scientific basis for

pharmacotherapy. Knowledge of clinical pharmacology is absolutely necessary for the doctor in connection with the need to use the principles of an effective and safe choice of medicines.

11. Learning outcomes (competency):

Knowledge (cognitive sphere)	**Skills (psychomotor sphere)**	**Personalities and professional competencies (relationships)**
- Knows the features of the pharmacokinetics and pharmacodynamics of drugs and methods for assessing the quality of life of a particular patient - Knows risk factors and clinical manifestations of major adverse drug reactions. - Knows the basic principles of dosage of drugs, depending on the pathological and physiological parameters of the human body; - Knows possible drug interactions. - Knows clinical recommendations (treatment protocols) regarding the provision of medical care to the population • -	- Able to make the choice of the most effective and safe medicines, taking into account age-related aspects and the condition of patients, determine the optimal dosage regimen; - Able to choose the dosage form of the drug, dose, frequency and duration of administration of the drug. - Is able to control and make a forecast of the risk of side effects of drugs; - Able to prevent and apply correction methods when they occur; - Knows the clinical protocol for diagnosing and treating diseases. - Able to analyze the effect of drugs on the totality of their pharmacological effects on the body.	- communicates its own knowledge, opinions and skills on the principles of communication with patients (in adults and children) in clinical practice. -Able to communicate information, ideas, problems and solutions to both specialists and non-specialists. - argues the formulary based on the treatment protocol. -Able to use types of literature (educational, scientific, reference) and computer databases on clinical pharmacology and evidence-based medicine - develops a treatment plan for children, taking into account the clinical picture.

12. Prerequisites: Pharmacology-1, Pharmacology-2

13. Post-requisites: General medical practice-1, General medical practice-2

14. Literature:

Primary:

1. Kalieva, S. S. Clinical pharmacology and rational pharmacotherapy. Volume 1: textbook / Sh. S. Kaliev., N. A. Minakova. - Almaty: Evero, 2016 .-- 460

2. Kalieva, C. S. Clinical pharmacology and rational pharmacotherapy. Volume 2: textbook / S. S. Kaliev, N. A. Simokhin. - Almaty: Evero, 2016 .-- 288 p.

3. Greenhalch T. Basics of evidence-based medicine: textbook: translation from English. / Under the editor. GS Kemelova; in the Kazakh language aud. T. K. Sagadatova. –M .: GEOTAR- Media, 2014

4. Kulmagambetov I. R. Clinical pharmacology. Part 1: textbook / I. R. Kulmagambetov. - Almaty: Evero, 2014. - 320 p. c.

5. Kulmagambetov I. R. Clinical pharmacology. Part II: textbook / I. R. Kulmagambetov. - Almaty: Evero, 2014. - 392 p. c.

6. Petrov V.I. Evidence Based Medicine: Textbook. allowance / V.I. Petrov, S.V. Disadvantage .- ; Rec. Textbook. By med and farm. the formation of Russian universities. - M .: GEOTAR-Media, 2012

Additional:

1. Rational pharmacotherapy in oncology: hands, for practitioners / ed. M.I. Davydova, V.A. Gorbunova. - M.: GEOTAR-Media, 2015. -844s.

2. Petrov V.I. Clinical pharmacology and pharmacotherapy in real medical practice: master class: textbook / V.I. Petrov.-; Rec. GOU DPO "Russian med. Acad. postgraduate education. " - M.: GEOTAR-Media, 2011 .-- 880 p.: Ill.

3. Lecture complex - on the subject of effective use of drugs: lecture complex / Department of Pharmacology, Pharmacotherapy and Clinical Pharmacology. - Shymkent: SKSPhA, 2016. - 65 pages.
4. Rakhimov K.D. Guidelines for the safe use of medicines: a guide / K.D. Rakhimov, K.A. Zordinova; Ministry of Health of the Republic of Kazakhstan; Almaty state Institute of Advanced Doctors Research Institute of Pharmacology and Toxicology; National Acad. Sciences of the Republic of Kazakhstan .- Almaty: B. and., 2009.- 244s.
Electronic editions:
1. Petrov, V. I. Clinical pharmacology and pharmacotherapy in real medical practice, master class [Electronic resource]: textbook / V. I. Petrov. - The electron. text data (63.5 MB). - M.: Publishing Group "GEOTAR-Media", 2011. - 880 p. email opt. disk (CD-ROM).
2 .. Doctor's consultant. Clinical Pharmacology. Version 1.1 [Electronic resource]: manual. - The electron. text data (132 Mb). - M.: Publishing Group "GEOTAR-Media", 2010. - Email. opt. disk (CD-ROM).

1. Department of Obstetrics and Gynecology
2. Level of training-Bachelor
3. Educational program-6B10101 « General medicine »
4. Course – 4, number of credits-4, number of hours-120.
5. Name of elective discipline- Gynecology
Goal:
Formation of competencies for the diagnosis and management of patients with gynecological diseases, provision of primary medical care and prevention of common gynecological pathologies, training in the basics of practical skills used in gynecology. To improve the communication skills of interpersonal communication and counseling of patients with gynecological pathology.
The content of the discipline:
Neuroendocrine regulation of the menstrual cycle. Methods of examination of a gynecological patient with an assessment of the specific functions of the female reproductive system and the functions of organs related to sexual organs in anatomical and functional relations. Functional diagnostic tests. Screening methods. Classification, clinic, modern methods of diagnosis and principles of treatment of gynecological diseases.

Tasks:
1. To give students up-to-date knowledge about the main manifestations of the most common obstetric conditions and gynecological pathologies;
2. Teach them to provide emergency care for the most common obstetric conditions and gynecological diseases, to make an observation plan, to provide the necessary care to the patient;
3. Teach to observe and control sanitary and hygienic and anti-epidemic regimes in obstetric and gynecological institutions in accordance with regulatory documents;
4. Teach to train (advise) patients and family on family planning and contraception issues;
5. Teach to provide pre-medical care for emergency conditions in obstetrics and gynecology.

Justification:
Organization of women's health protection in the Republic of Kazakhstan. Formation of competencies for the diagnosis and management of patients with gynecological diseases, provision of primary medical care and prevention of common gynecological pathologies, training in the basics of practical skills used in gynecology. To improve the communication skills of interpersonal communication and counseling of patients with gynecological pathology.

Learning outcomes (competencies)
1) Knowledge and understanding:
- demonstrates knowledge of the subject and tasks of obstetrics and gynecology;
2) Applying knowledge and understanding
- knows the methods of research and primary care in obstetrics and gynecology;

- has the skills of medical examination and prevention of pathology in obstetrics and gynecology ;
3) Formation of judgments
- uses the acquired knowledge to understand the features of etiopathogenesis, clinic, complications and extragenital diseases during pregnancy;
- applies the theoretical knowledge gained in midwifery for further study at the internship level;
4) Communication skills
- demonstrates communication skills when interacting with different people in different obstetric situations;
- demonstrates professional behavior – responsibility, productivity, self-esteem, reflection;
5) Learning skills or learning abilities
- demonstrates readiness and ability to acquire new knowledge;

Prerequisites: Anatomy, physiology, and pathology.

Post-requirements: Nursing care in obstetrics and gynecology

Literature

basic:
1. Bodyazhina I. I. Obstetrics: textbook 1,2,3 Vol.- Evero, 2015
2.management of Obstetrics and gynecology for paramedics and obstetricians: Ed. V. N. Prilepskoy, V. E. Radzinsky. Moscow, 2007. - 688 P.
3. Radzinsky V. E. Obstetrics: textbook + CD. Moscow, 2008-904 P.
4.Gynecology: textbook /L. N. Vasilevskaya [and doctor].] 6-E izd. - Rostov B/D, 2007

additional:
1. urgent assistance in obstetrics and gynecology: management / Ed. "What's The Matter?" - 2nd ed., ISPR. and the ball. Moscow: GEOTAR-media, 2011.
2. Kailyubayeva G. zh. physiology of pregnancy. Dorodovoy care : educational and methodological support / G. zh. Kailyubayeva, G. N. Baimusanova; MZ RK-2-OE izdaniye-Karaganda: AKNUR, 2019. - 132 H

1. Department of Obstetrics and Gynecology
2. Level of training-Bachelor
3. Educational program-6B10101 «General medicine»
4. Course – 4, number of credits-5, number of hours-150.
5. Name of elective discipline-Obstetrics
Goal:

Obstetrics is a fundamental branch of clinical medicine. Protection of reproductive health, management of pregnancy, childbirth and the postpartum period is the main task of this discipline. A qualitative indicator of the work of any maternity service is the reduction of maternal and perinatal morbidity and mortality. In the diagnosis and treatment of obstetric complications at the present stage, it requires the mandatory use of clinical protocols in this specialty. Competencies in this area are mandatory for a graduate of the Faculty of General Medicine, who must know the clinical and physiological characteristics of the female body in different age periods, be able to carry out not only therapeutic and diagnostic, but also preventive measures of physiological and pathological obstetrics.

The content of the discipline:

Formation of knowledge, skills and abilities in the diagnosis and management of pregnancy, childbirth and the postpartum period, primary health care and prevention of common obstetric pathology, training in the basics of practical skills of normal and pathological obstetrics and perinatology.

Tasks:

1. To give students up-to-date knowledge about the main manifestations of the most common obstetric conditions and gynecological pathologies;

2. Teach them to provide emergency care for the most common obstetric conditions and gynecological diseases, to make an observation plan, to provide the necessary care to the patient;
3. Teach to observe and control sanitary and hygienic and anti-epidemic regimes in obstetric and gynecological institutions in accordance with regulatory documents;
4. Teach to train (advise) patients and family on family planning and contraception issues;
5. Teach to provide pre-medical care for emergency conditions in obstetrics and gynecology.

Justification:
Organization of women's health protection in the Republic of Kazakhstan. Help in emergency situations should be a doctor of any specialty, this is especially important in obstetrics, where the life of the mother and fetus depends on the speed and skill of the doctor. Treatment of diseases, taking into account the obstetric and gynecological status in the presence of concomitant obstetric pathology; emergency care for pregnant women, women in labor, women in labor.
The role of the doctor in the prevention of diseases in women, the influence of the course of pregnancy and childbirth. Infection in the development of purulent-septic complications in pregnant women and postpartum women. Critical periods of pregnancy, stages of development of the embryo/fetus; changes that occur in the body of a woman during pregnancy. Complicated course of pregnancy (early toxicosis, gestosis, anemia, infection)

Learning outcomes (competencies)
1) Knowledge and understanding:
- demonstrates knowledge of the subject and tasks of obstetrics and gynecology;
2) Applying knowledge and understanding
- knows the methods of research and primary care in obstetrics and gynecology;
- has the skills of medical examination and prevention of pathology in obstetrics and gynecology ;
3) Formation of judgments
- uses the acquired knowledge to understand the features of etiopathogenesis, clinic, complications and extragenital diseases during pregnancy;
- applies the theoretical knowledge gained in midwifery for further study at the internship level;
4) Communication skills
- demonstrates communication skills when interacting with different people in different obstetric situations;
- demonstrates professional behavior – responsibility, productivity, self-esteem, reflection;
5) Learning skills or learning abilities
- demonstrates readiness and ability to acquire new knowledge;

Prerequisites: Anatomy, physiology, and pathology.

Post-requirements: Nursing care in obstetrics and gynecology

Literature
basic:
1. Bodyazhina I. I. Obstetrics: textbook 1,2,3 Vol.- Evero, 2015
2.management of Obstetrics and gynecology for paramedics and obstetricians: Ed. V. N. Prilepskoy, V. E. Radzinsky. Moscow, 2007. - 688 P.
3. Radzinsky V. E. Obstetrics: textbook + CD. Moscow, 2008-904 P.
4.Gynecology: textbook /L. N. Vasilevskaya [and doctor].] 6-E izd. - Rostov B/D, 2007

additional:
1. urgent assistance in obstetrics and gynecology: management / Ed. "What's The Matter?" - 2nd ed., ISPR. and the ball. Moscow: GEOTAR-media, 2011.
2. Kailyubayeva G. zh. physiology of pregnancy. Dorodovoy care : educational and methodological support / G. zh. Kailyubayeva, G. N. Baimusanova; MZ RK-2-OE izdaniye-Karaganda: AKNUR, 2019. - 132 H

1. Department of Obstetrics and Gynecology
2. Level of training-Bachelor
3. Educational program-6B10101 «General medicine»
4. Course – 4, number of credits-5, number of hours-150.
5. Name of elective discipline-Obstetrics

Goal:

Obstetrics is a fundamental branch of clinical medicine. Protection of reproductive health, management of pregnancy, childbirth and the postpartum period is the main task of this discipline. A qualitative indicator of the work of any maternity service is the reduction of maternal and perinatal morbidity and mortality. In the diagnosis and treatment of obstetric complications at the present stage, it requires the mandatory use of clinical protocols in this specialty. Competencies in this area are mandatory for a graduate of the Faculty of General Medicine, who must know the clinical and physiological characteristics of the female body in different age periods, be able to carry out not only therapeutic and diagnostic, but also preventive measures of physiological and pathological obstetrics.

The content of the discipline:

Formation of knowledge, skills and abilities in the diagnosis and management of pregnancy, childbirth and the postpartum period, primary health care and prevention of common obstetric pathology, training in the basics of practical skills of normal and pathological obstetrics and perinatology.

Tasks:

1. To give students up-to-date knowledge about the main manifestations of the most common obstetric conditions and gynecological pathologies;
2. Teach them to provide emergency care for the most common obstetric conditions and gynecological diseases, to make an observation plan, to provide the necessary care to the patient;
3. Teach to observe and control sanitary and hygienic and anti-epidemic regimes in obstetric and gynecological institutions in accordance with regulatory documents;
4. Teach to train (advise) patients and family on family planning and contraception issues;
5. Teach to provide pre-medical care for emergency conditions in obstetrics and gynecology.

Justification:

Organization of women's health protection in the Republic of Kazakhstan. Help in emergency situations should be a doctor of any specialty, this is especially important in obstetrics, where the life of the mother and fetus depends on the speed and skill of the doctor. Treatment of diseases, taking into account the obstetric and gynecological status in the presence of concomitant obstetric pathology; emergency care for pregnant women, women in labor, women in labor.

The role of the doctor in the prevention of diseases in women, the influence of the course of pregnancy and childbirth. Infection in the development of purulent-septic complications in pregnant women and postpartum women. Critical periods of pregnancy, stages of development of the embryo/fetus; changes that occur in the body of a woman during pregnancy. Complicated course of pregnancy (early toxicosis, gestosis, anemia, infection)

Learning outcomes (competencies)

1) Knowledge and understanding:
- demonstrates knowledge of the subject and tasks of obstetrics and gynecology;

2) Applying knowledge and understanding
- knows the methods of research and primary care in obstetrics and gynecology;
- has the skills of medical examination and prevention of pathology in obstetrics and gynecology ;

3) Formation of judgments
- uses the acquired knowledge to understand the features of etiopathogenesis, clinic, complications and extragenital diseases during pregnancy;
- applies the theoretical knowledge gained in midwifery for further study at the internship level;

4) Communication skills
- demonstrates communication skills when interacting with different people in different obstetric situations;
- demonstrates professional behavior – responsibility, productivity, self-esteem, reflection;
5) Learning skills or learning abilities
- demonstrates readiness and ability to acquire new knowledge;

Prerequisites: Anatomy, physiology, and pathology.

Post-requirements: Nursing care in obstetrics and gynecology

Literature

basic:
1. Bodyazhina I. I. Obstetrics: textbook 1,2,3 Vol.- Evero, 2015
2.management of Obstetrics and gynecology for paramedics and obstetricians: Ed. V. N. Prilepskoy, V. E. Radzinsky. Moscow, 2007. - 688 P.
3. Radzinsky V. E. Obstetrics: textbook + CD. Moscow, 2008-904 P.
4.Gynecology: textbook /L. N. Vasilevskaya [and doctor].] 6-E izd. - Rostov B/D, 2007

additional:
1. urgent assistance in obstetrics and gynecology: management / Ed. "What's The Matter?" - 2nd ed., ISPR. and the ball. Moscow: GEOTAR-media, 2011.
2. Kailyubayeva G. zh. physiology of pregnancy. Dorodovoy care : educational and methodological support / G. zh. Kailyubayeva, G. N. Baimusanova; MZ RK-2-OE izdaniye-Karaganda: AKNUR, 2019. - 132 H

1. **Department:** Infectious diseases and dermatovenerology
2. **Level of training** 6B10101 bachelor
3. **Specialty:** «General medicine»
4. **Course:** 4
5. **Name of elective discipline:** Tropical diseases
6. **Number of credits:** 5 credits
7. **Purpose:** to acquire students in-depth systematic theoretical knowledge and professional skills in the field of early and differential diagnosis, clinic, treatment and prevention of the spread of tropical infectious diseases.
8. **Tasks:**

Formation of students ' knowledge: the study of the features of epidemiology, etiology, pathogenesis, clinical manifestations of tropical infectious diseases at the present stage

Formation of students ' skills: acquisition of skills of algorithms for early and differential diagnosis of tropical infectious diseases, emergency medical care and treatment. Organization of sanitary anti-epidemic, preventive measures against tropical infectious diseases.

Formation of analytical skills: the use of modern scientific data based on the principles of evidence-based medicine in the conduct of research on tropical infectious diseases.

9. Rationale for the choice of discipline

Due to the expansion and intensification of political, economic and cultural ties with the countries of Asia, Africa and Latin America, the citizens of Kazakhstan became frequent guests of the States located on their territory. Meanwhile, infectious and parasitic diseases are widespread in these States, posing an extreme danger to public health. Every year, the number of imported tropical diseases among Kazakh citizens - tourists, merchants, employees of institutions located abroad, crews of ships and aircraft, specialists working under the contract increases. Every year in the world recorded deaths from imported cases of yellow fever, tropical malaria, hemorhagic fevers. Thus, the urgency of studying the problem of tropical infections is due to the high level of morbidity in the world, high migration, severe course with possible complications and death.

10. Learning outcomes (competencies)

Knowledge (cognitive sphere)	**Skills & perks (psychomotor sphere)**	**Personal and professional competences (relations)**
Know: - normative, legal and legislative documents in the field of epidemiology and prevention of tropical infectious diseases. - Principles of organization of infectious care in tropical infectious diseases - Etiology, epidemiology, pathogenesis, clinical presentation and classification of infectious diseases - Clinic of characteristic complications and urgent conditions in tropical infectious diseases - Modern methods of specific and non-specific diagnostics of infectious diseases. - Basic principles of treatment of tropical infectious diseases (etiotropic, pathogenetic, symptomatic therapy) - Principles of prevention and anti-epidemic measures in the focus of tropical infectious diseases	• **Can:** - Examine an infectious patient with tropical infectious diseases according to established rules. - To assess the differential diagnostic significance of symptoms and syndromes characteristic of tropical infectious diseases - To make a plan of the necessary laboratory and instrumental examination, to carry out the collection of pathological materials from the patient. **Possess skills:** - algorithms for early and differential diagnosis of human zoonotic infections. - evaluation of the results of serological, molecular biological, bacteriological, immunological studies; - emergency medical care and treatment of human zoonotic infections. - Organization of sanitary and anti-epidemic, preventive measures against human zoonotic infections	**General cultural (GC):** -ability to abstract thinking, analysis, synthesis- (OK-1); - **General professional competence(GPC):** -ability to assess morphological and functional, physiological States and pathological processes in the human body to solve professional problems (MIC-9); **professional competence(PC):** -readiness to collect and analyze the patient's complaints, his / her medical history, examination results, laboratory, instrumental, pathological, anatomical and other studies in order to recognize the condition or establish the presence or absence of the disease; - ability to determine the tactics of management of patients with different nosological forms

11. Literature:

1. Dr. M. Estee Torok, Dr. Ed Moran, Dr. Fiona J. Cooke. Oxford Handbook of Infectious Diseases and Microbiology. 2017
2. Абуова Г.Н. Жуқпалы аурулардың синдромдық дифференциялық диагнозы : оқулық - Шымкент , 2017.-500 экз.
3. Абуова Г.Н. Жуқпалы аурулардан дәрістер жинағы : оқу құралы -Шымкент, 2017.-300экз.
4. Инфекционные болезни. Эпидемиология: учебник / Н. И. Брико, В. И. Покровский. - М.: ГЭОТАР-Медиа, 2015. - 368 с.: ил.
5. Инфекционные болезни. Учебник Н.Д. Ющук, Г.Н. Кареткина, Л. И. Мельникова; Издательство, Гэотар-Медиа, 2015 г.; 512 страниц
6. Электронная библиотечная система «Консультант студента» Электронная библиотека медицинского вуза: [Электронный ресурс]. – М.: Издательская группа «ГЭОТАР-Медиа», 2015. – Режим доступа: http://www.studmedlib.ru – карты индивидуального доступа.
7. Электронная библиотечная система «Национальный цифровой ресурс «Руконт» /ИТС «Контекстум» [Электронный ресурс]. – М.: Консорциум «Контекстум»,2015. – Режим доступа:http://www.rucont.ru через IP-адрес академии.

8. Справочная правовая система КонсультантПлюс [Электронный ресурс] / ООО «Компания ЛАД-ДВА». – М., 2015. – Режим доступа: http://www.consultant.ru через IP-адрес академии.
9. Электронная правовая система для Специалистов в области медицины и здравоохранения «Медицина и здравоохранение» / ИСС «Кодекс» [Электронный ресурс]. – СПб.: Консорциум «Кодекс», 2015. – Режим доступа: сетевой офисный вариант по IP-адресу академии.
10. Консультант врача. Электронная медицинская библиотека [Электронный ресурс]/ООО ГК «ГЭОТАР». – М., 2015. – Режим доступа: http://www.rosmedlib.ru в Научной библиотеке КемГМА – через IP-адрес академии.
11. Амиреев С.А. Стандарты и алгоритмы мероприятий при инфекционных болезнях 1-2 том: практическое руководство. –Эверо, 2014.
12. Абуова, Г. Н. Тырысқақ [Электронный ресурс] : оқукұралы . - Электрон. текстовые дан. (416 Кб). - Шымкент : Б. ж., 2008. - эл. опт.диск (CD-ROM).
13. Абуова Г.Н. «Оба» (оқу құрал). – Шымкент. – 2010. 43б., утверждено РЦИТ МОН, протокол №2 от 22.02.2010г. Тираж 200 экз.
14. Абуова Г.Н., Нурмашева А.А. «Конго-Крымская геморрагическая лихорадка (клиника, диагностика, лечение, организация медицинской помощи)» (учебное пособие). – Шымкент. – 2013. 72с., утверждено РЦИТ МОН, протокол №4 от 21.05.2013г. Тираж 200 экз.
15. Дүйсенова, А. Қ.**Жұқпалы аурулар** оқу құралы /- Алматы : Эверо, 2014.-220 экз.
16. В.А.Казанцев, А.П.Казанцев. Дифференциальная диагностика инфекционных болезней. Руководство для врачей; Издательство; 496 страниц, Медицинское Информационное Агентство (МИА), 2013 г
17. В.И.Лучшев, С.Н. Жаров, В.В.Никифоров. Атлас инфекционных болезней,
18. Учебник:Travel and Tropical Medicine Manual / Jong E. C. [ed. by], Sanford Ch.; Saunders / Elsevier
19. Дүйсенова, А. Қ. Бруцеллез: жоғары медициналық оқу орындарының студенттері мен дәрігер-интерндерге арналған оқу құралы. - Алматы : [б. и.], 2011. - 100 б.
20. Дүйсенова, А.Қ. *Зооноздыинфекциялар: Оқу құралы.* Эверо, Алматы. (2009)
21. Санитарные правила, санитарные правила и нормы.

1. **Department:** Infectious diseases and dermatovenerology
2. **Level of training** 6B10101 bachelor
3. **Specialty:** «General medicine»
4. **Course:** 4
5. **Name of elective discipline**: Especially dangerous infections
6. **Number of credits**: 5 credits
7. **Purpose:** acquisition by students of in-depth systematized theoretical knowledge and professional skills in the field of early and differential diagnosis, clinic, treatment and prevention of the spread of particularly dangerous diseases
8. **Tasks:**

Formation of students ' knowledge: the study of the features of epidemiology, etiology, pathogenesis, clinical manifestations of particularly dangerous diseases at the present stage

Formation of students ' skills: acquisition of skills of algorithms for early and differential diagnosis of particularly dangerous diseases, emergency medical care and treatment. Organization of sanitary anti-epidemic, preventive measures against particularly dangerous diseases.

Formation of analytical skills: the use of modern scientific data based on the principles of evidence-based medicine in research Work on the problems of particularly dangerous diseases.

9. **Rationale for the choice of discipline**

Especially dangerous infections (OOI) — highly contagious diseases that appear suddenly and quickly spread, covering as soon as possible a large mass of the population. OOI occur with a heavy clinic and are characterized by a high percentage of mortality. The urgency of the problem of these infectious diseases is due to a number of reasons, the main ones are:

- increased risk of epidemiological emergencies due to natural disasters, man-made disasters, acts of biological terrorism;

- constant threat of importation of dangerous infectious diseases from the countries of near and far abroad;
- maintaining the epidemic potential of existing natural foci of infectious diseases, their activation and, as a consequence, the expansion of the range of pathogens;
- the emergence of new and the return of old nosological forms;
- the evolution of pathogens, leading to the emergence of multi-resistant and highly pathogenic strains.

10. Learning out comes (competencies)

Knowledge (cognitive sphere)	**Skills & perks (psychomotor sphere**	**Personal and professional competences (relations)**
Know: - normative, legal and legislative documents in the field of epidemiology and prevention of particularly dangerous diseases. - Principles of organization of infectious care in OOI - Etiology, epidemiology, pathogenesis, clinical presentation and classification of OOI - Clinic of typical complications and urgent conditions of OOI - Modern methods of specific and non-specific diagnosis of OOI. - Basic principles of treatment of OOI (etiotropic, PA togenetic, symptomatic therapy) - Principles of prevention and anti-epidemic measures in the OOI focus	**Can:** - To examine the infectious patient with OOI according to the established rules. - To evaluate the differential diagnostic significance of the symptoms and syndromes characteristic of OOI - Make a plan for the necessary laboratory and instrumental examination, to carry out the collection of pathological materials from the patient. **Own skills:** - algorithms for early and differential diagnosis of human zoonotic infections. - evaluation of the results of serological, molecular biological, bacteriological, immunological studies; - carrying out emergency medical care and treatment of human zoonotic infections. - Organization of sanitary and anti-epidemic, preventive measures against human zoonotic infections	**General cultural (GC):** a-bility to abstract thinking, analysis, synthesis- (GC-1); - **General professional competence(GPC):** -ability to assess morphological and functional, physiological States and pathological processes in the human body to solve professional problems (MIC-9); - **professional competence(PC):** -readiness to collect and analyze the patient's complaints, his / her medical history, examination results, laboratory, instrumental, pathological, anatomical and other studies in order to recognize the condition or establish the presence or absence of the disease; - ability to determine the tactics of management of patients with different nosological forms.

11. Literature:

22. Dr. M. Estee Torok, Dr. Ed Moran, Dr. Fiona J. Cooke. Oxford Handbook of Infectious Diseases and Microbiology. 2017
23. Абуова Г.Н. Жуқпалы аурулардың синдромдық дифференциялық диагнозы : оқулық - Шымкент , 2017.-500 экз.
24. Абуова Г.Н. Жуқпалы аурулардан дәрістер жинағы : оқу құралы -Шымкент, 2017.-300экз.
25. Инфекционные болезни. Эпидемиология: учебник / Н. И. Брико, В. И. Покровский. - М.: ГЭОТАР-Медиа, 2015. - 368 с.: ил.
26. Инфекционные болезни. Учебник Н.Д. Ющук, Г.Н. Кареткина, Л. И. Мельникова; Издательство, Гэотар-Медиа, 2015 г.; 512 страниц
27. Электронная библиотечная система «Консультант студента» Электронная библиотека медицинского вуза: [Электронный ресурс]. – М.: Издательская группа «ГЭОТАР-Медиа», 2015. – Режим доступа: http://www.studmedlib.ru – карты индивидуального доступа.

28. Электронная библиотечная система «Национальный цифровой ресурс «Руконт» /ИТС «Контекстум» [Электронный ресурс]. – М.: Консорциум «Контекстум»,2015. – Режим доступа:http://www.rucont.ru через IP-адрес академии.
29. Справочная правовая система КонсультантПлюс [Электронный ресурс] / ООО «Компания ЛАД-ДВА». – М., 2015. – Режим доступа: http://www.consultant.ru через IP-адрес академии.
30. Электронная правовая система для Специалистов в области медицины и здравоохранения «Медицина и здравоохранение» / ИСС «Кодекс» [Электронный ресурс]. – СПб.: Консорциум «Кодекс», 2015. – Режим доступа: сетевой офисный вариант по IP-адресу академии.
31. Консультант врача. Электронная медицинская библиотека [Электронный ресурс]/ООО ГК «ГЭОТАР». – М., 2015. – Режим доступа: http://www.rosmedlib.ru в Научной библиотеке КемГМА – через IP-адрес академии.
32. Амиреев С.А. Стандарты и алгоритмы мероприятий при инфекционных болезнях 1-2 том: практическое руководство. –Эверо, 2014.
33. Абуова, Г. Н. Тырысқақ [Электронный ресурс] : оқукұралы . - Электрон. текстовые дан. (416 Кб). - Шымкент : Б. ж., 2008. - эл. опт.диск (CD-ROM).
34. Абуова Г.Н. «Оба» (оқу құрал). – Шымкент. – 2010. 43б., утверждено РЦИТ МОН, протокол №2 от 22.02.2010г. Тираж 200 экз.
35. Абуова Г.Н., Нурмашева А.А. «Конго-Крымская геморрагическая лихорадка (клиника, диагностика, лечение, организация медицинской помощи)» (учебное пособие). – Шымкент. – 2013. 72с., утверждено РЦИТ МОН, протокол №4 от 21.05.2013г. Тираж 200 экз.
36. Дүйсенова, А. Қ.**Жұқпалы аурулар** оқу құралы /- Алматы : Эверо, 2014.-220 экз.
37. В.А.Казанцев, А.П.Казанцев. Дифференциальная диагностика инфекционных болезней. Руководство для врачей; Издательство; 496 страниц, Медицинское Информационное Агентство (МИА), 2013 г
38. В.И.Лучшев, С.Н. Жаров, В.В.Никифоров. Атлас инфекционных болезней,
39. Учебник:Travel and Tropical Medicine Manual / Jong E. C. [ed. by], Sanford Ch.; Saunders / Elsevier
40. Дүйсенова, А. Қ. Бруцеллез: жоғары медициналық оқу орындарының студенттері мен дәрігер-интерндерге арналған оқу құралы. - Алматы : [б. и.], 2011. - 100 б.
41. Санитарные правила, санитарные правила и нормы.

1. Department: Infectious diseases and dermatovenerology
2. Level of training bachelor
3. Specialty: 6B10101«General medicine»
4.Course: 4
5. Name of elective course: HIV-infection
6. Number of credits: 5 credits
7. Purpose: to acquire students in-depth systematic theoretical knowledge and professional skills in the field of early and differential diagnosis, clinic, treatment and prevention of HIV infection.
8. Tasks:
- teaching students the basic principles of treatment and diagnosis of HIV infection;
- study of the principles of HIV prevention.

9. Rationale for the choice of discipline:
Infection caused by human immunodeficiency virus (HIV) – a chronic infectious disease, the pathogen is transmitted by contact. The disease is characterized by damage to the human immune system, and the development of acquired immunodeficiency syndrome (AIDS) and secondary lesions from subacute encephalitis to death. In the history of medicine there was no such infection, which would simultaneously cover five continents, had a high tendency of growth. Specialists currently number about 50 million people living with HIV. Since the end of the twentieth century and the beginning of the XXI century their number has increased 10-20 times.
Students need to know the diagnosis, treatment and prevention of HIV infection.

10. Learning outcomes (competencies)

Knowledge (cognitive sphere)	Skills & perks (psychomotor sphere)	Personal and professional competences (relations)
know: - features of examination of an infectious patient ─ HIV infection: etiology, epidemiology, pathogenesis. ─HIV infection: clinical manifestations, diagnosis and treatment principles. ─ The principles of HIV prevention	***an*:** ─ the basic principles of working with infected patients in bed at the infectious diseases hospital, ─establish a maximum level of trust with the patient, the patient's nannies, the patient's relatives and other health care professionals, ─ examination of HIV-infected patients, ─ selection of laboratory and instrumental diagnostic methods and interpretation of results, ─ antiviral drugs used in the treatment of HIV infection, make a treatment plan.•own skills: - clinical diagnosis of HIV infection. ─ Interpretation of laboratory tests for HIV infection: General clinical, biochemical blood test, proteinogram, immunogram, coagulogram, ELISA analysis and PCR diagnosis; ─ the treatment of HIV infection; ─ the organization of preventive measures against HIV-infection	**General cultural (GC):** -ability to abstract thinking, analysis, synthesis- (Gc-1); - **General professional competence(GPC):** - ability to assess morphological and functional, physiological States and pathological processes in the human body to solve professional problems (GPC-9); - **professional competence(PC):** readiness to collect and analyze the patient's complaints, his / her medical history, examination results, laboratory, instrumental, pathological, anatomical and other studies in order to recognize the condition or establish the presence or absence of the disease; ability to determine the tactics of management of patients with different nosological forms.

11. Literature:

1. Dr. M. Estee Torok, Dr. Ed Moran, Dr. Fiona J. Cooke. Oxford Handbook of Infectious Diseases and Microbiology. 2017
2. Абуова Г.Н. Жұқпалы аурулардың синдромдық дифференциялық диагнозы : оқулық - Шымкент , 2017.-500 экз.
3. Абуова Г.Н. Жұқпалы аурулардан дәрістер жинағы : оқу құралы -Шымкент, 2017.-300экз.
4. Инфекционные болезни. Эпидемиология: учебник/ Н.И.Брико, В. И. Покровский. - М.: ГЭОТАР-Медиа, 2015. - 368 с.: ил.
5. Инфекционные болезни. Учебник Н.Д. Ющук, Г.Н. Кареткина, Л. И. Мельникова; Издательство, Гэотар-Медиа, 2015 г.; 512 страниц
6. Электронная библиотечная система «Консультант студента» Электронная библиотека медицинского вуза: [Электронный ресурс]. – М.: Издательская группа «ГЭОТАР-Медиа», 2015. – Режим доступа: http://www.studmedlib.ru – карты индивидуального доступа.
7. Электронная библиотечная система «Национальный цифровой ресурс «Руконт» /ИТС «Контекстум» [Электронный ресурс]. – М.: Консорциум «Контекстум»,2015. – Режим доступа:http://www.rucont.ru через IP-адрес академии.
8. Справочная правовая система КонсультантПлюс [Электронный ресурс] / ООО «Компания ЛАД-ДВА». – М., 2015. – Режим доступа: http://www.consultant.ru через IP-адрес академии.
9. Электронная правовая система для Специалистов в области медицины и здравоохранения «Медицина и здравоохранение» / ИСС «Кодекс» [Электронный ресурс]. – СПб.: Консорциум «Кодекс», 2015. – Режим доступа: сетевой офисный вариант по IP-адресу академии.
10. Консультант врача. Электронная медицинская библиотека [Электронный ресурс]/ООО ГК «ГЭОТАР». – М., 2015. – Режим доступа: http://www.rosmedlib.ru в Научной библиотеке КемГМА – через IP-адрес академии.
11. Амиреев С.А. Стандарты и алгоритмы мероприятий при инфекционных болезнях 1-2 том: практическое руководство. –Эверо, 2014.

12. Абуова, Г. Н. Тырысқақ [Электронный ресурс] :оқуқұралы . - Электрон. текстовые дан. (416 Кб). - Шымкент : Б. ж., 2008. - эл. опт.диск (CD-ROM).
13. Абуова Г.Н. «Оба» (оқу құрал). – Шымкент. – 2010. 43б., утверждено РЦИТ МОН, протокол №2 от 22.02.2010г. Тираж 200 экз.
14. Абуова Г.Н., Нурмашева А.А. «Конго-Крымская геморрагическая лихорадка (клиника, диагностика, лечение, организация медицинской помощи)» (учебное пособие). – Шымкент. – 2013. 72с., утверждено РЦИТ МОН, протокол №4 от 21.05.2013г. Тираж 200 экз.
15. Дүйсенова, А. Қ.**Жұқпалы аурулар** оқу құралы /- Алматы : Эверо, 2014.-220 экз.
16. В.А.Казанцев, А.П.Казанцев. Дифференциальная диагностика инфекционных болезней. Руководство для врачей; Издательство; 496 страниц, Медицинское Информационное Агентство (МИА), 2013 г
17. В.И.Лучшев, С.Н. Жаров, В.В.Никифоров. Атлас инфекционных болезней,
18. Учебник:Travel and Tropical Medicine Manual / Jong E. C. [ed. by], Sanford Ch.; Saunders / Elsevier
19. Дүйсенова, А. Қ. Бруцеллез: жоғары медициналық оқу орындарының студенттері мен дәрігер-интерндерге арналған оқу құралы. - Алматы : [б. и.], 2011. - 100 б.
20. Санитарные правила, санитарные правила и нормы.

1. Department: Infectious diseases and dermatovenerology
2. Level of training: 6B10101 bachelor
3. Specialty: «General medicine»
4. Course: 4
5. Name of elective discipline: Vaccinal prevention
6. Number of credits: 5 credits
7. Purpose: to study the system of organization of immunity prevention of infectious diseases; to study the legal aspects of vaccination; to master the method of vaccination of children at risk for individual vaccination calendars; to learn communication "pediatrician-parent" during the active immunization of children
8. Tasks:
Study and acquisition of students ' knowledge about vaccination and immunity prevention of infectious diseases as the most important part of public health; study the legislation of the Republic of Kazakhstan, ensuring the availability of vaccination, the system of registration and organization of assistance in case of post-vaccination complications.

- Formation of students ' skills: to determine the indications and contraindications to vaccination; to vaccinate children from high-risk groups; to vaccinate children suffering from allergopathology, chronic kidney disease, Central nervous system damage; to monitor, record, diagnose and differential diagnosis of post-vaccination reactions and complications in the application of various vaccines.
- Formation of skills of analytical work with information (educational, scientific, reference literature and Internet resources), with information technology, with the results of clinical and laboratory diagnostic data.

9. Rationale for the choice of discipline
Primary health care (PHC) is now an integral part of UN action on human development. The effectiveness and quality of the entire health care system, the solution of most medical and social problems arising at the family level depend on the state of outpatient care. The analysis of the work of the EPO shows that more than 80% of the population of the attached contingent is under medical supervision. There is a decrease in the level of hospitalization by 30%, a decrease in the number of calls to the emergency and emergency services by 40%, which was undoubtedly influenced by the immunization program against various diseases.
10. Learning outcomes (competencies)

Knowledge (cognitive sphere)	**Skills & perks (psychomotor sphere)**	**Personal and professional competences (relations)**
Know:	**Can:**	**General cultural (GC):**

- Fundamentals of the legislation of the Republic of Kazakhstan, ensuring the availability of vaccine prevention. ─ System of registration and organization of assistance in case of post-vaccination complications ─ Registration and monitoring of post-vaccination reactions and complications. ─ The system of compensation for health damage caused by vaccination. ─Postvaccinal reactions and complications: monitoring, accounting, diagnosis and differential diagnosis. ─ Features of postvaccinal reactions and complications in the use of various vaccines. ─The types of immunoglobulins, characteristics of mono - and multi-component immunoglobulins ─ Classification of vaccines, sera, immunoglobulins. ─ Rules of introduction of homologous and heterologous preparations	Objective: to determine the indications and contraindications for vaccination ─ Determine indications and contraindications for the administration of homologous and heterologous sera and immunoglobulins. ─ Make a plan to examine the child with suspected post-vaccination complications. ─ To issue a Protocol for the management of immunoglobulins, serums and other biological preparations. ─ Make a plan and have a conversation with parents about preventive vaccinations. • **Own:** - skills of examination of children to determine the indications and contraindications for vaccination; ─ methodology of drawing up an individual calendar of preventive vaccinations; ─ methods of emergency care in case of reactions and complications during vaccination; ─ method of administration and administration of antitoxic sera in the treatment of infectious patients; ─ criteria for evaluating the results of serological, molecular biological, bacteriological and immunological studies;	-ability to abstract thinking, analysis, synthesis- (OK-1); **General professional competence(GPC):** -ability to assess morphological and functional, physiological States and pathological processes in the human body to solve professional problems (MIC-9); - professional competence(PC): readiness to collect and analyze the patient's complaints, his / her medical history, examination results, laboratory, instrumental, pathological, anatomical and other studies in order to recognize the condition or establish the presence or absence of the disease; - ability to determine the tactics of management of patients with different nosological forms.

11. Literature:

42. Dr. M. Estee Torok, Dr. Ed Moran, Dr. Fiona J. Cooke. Oxford Handbook of Infectious Diseases and Microbiology. 2017
43. Абуова Г.Н. Жұқпалы аурулардың синдромдық дифференциялық диагнозы : оқулық - Шымкент , 2017.-500 экз.
44. Абуова Г.Н. Жұқпалы аурулардан дәрістер жинағы : оқу құралы -Шымкент, 2017.-300экз.

45. Амиреев С.А. Вакцинопрофилактика, 2017г.
46. Инфекционные болезни. Эпидемиология: учебник / Н. И. Брико, В. И. Покровский. - М.: ГЭОТАР-Медиа, 2015. - 368 с.: ил.
47. Инфекционные болезни. Учебник Н.Д. Ющук, Г.Н. Кареткина, Л. И. Мельникова; Издательство, Гэотар-Медиа, 2015 г.; 512 страниц
48. Электронная библиотечная система «Консультант студента» Электронная библиотека медицинского вуза: [Электронный ресурс]. – М.: Издательская группа «ГЭОТАР-Медиа», 2015. – Режим доступа: http://www.studmedlib.ru – карты индивидуального доступа.
49. Электронная библиотечная система «Национальный цифровой ресурс «Руконт» /ИТС «Контекстум» [Электронный ресурс]. – М.: Консорциум «Контекстум»,2015. – Режим доступа:http://www.rucont.ru через IP-адрес академии.
50. Справочная правовая система Консультант Плюс [Электронный ресурс] / ООО «Компания ЛАД-ДВА». – М., 2015. – Режим доступа: http://www.consultant.ru через IP-адрес академии.
51. Электронная правовая система для Специалистов в области медицины и здравоохранения «Медицина и здравоохранение» / ИСС «Кодекс» [Электронный ресурс]. – СПб.: Консорциум «Кодекс», 2015. – Режим доступа: сетевой офисный вариант по IP-адресу академии.
52. Консультант врача. Электронная медицинская библиотека [Электронный ресурс]/ООО ГК «ГЭОТАР». – М., 2015. – Режим доступа: http://www.rosmedlib.ru в Научной библиотеке КемГМА – через IP-адрес академии.
53. Амиреев С.А. Стандарты и алгоритмы мероприятий при инфекционных болезнях 1-2 том: практическое руководство. –Эверо, 2014.
54. Абуова Г.Н. «Оба» (оқу құрал). – Шымкент. – 2010. 43б., утверждено РЦИТ МОН, протокол №2 от 22.02.2010г. Тираж 200 экз.
55. Абуова Г.Н., Нурмашева А.А. «Конго-Крымская геморрагическая лихорадка (клиника, диагностика, лечение, организация медицинской помощи)» (учебное пособие). – Шымкент. – 2013. 72с., утверждено РЦИТ МОН, протокол №4 от 21.05.2013г. Тираж 200 экз.
56. Дүйсенова, А. Қ. **Жұқпалы аурулар** оқу құралы /- Алматы : Эверо, 2014.-220 экз.
57. В.А.Казанцев, А.П.Казанцев. Дифференциальная диагностика инфекционных болезней. Руководство для врачей; Издательство; 496 страниц, Медицинское Информационное Агентство (МИА), 2013 г
58. В.И.Лучшев, С.Н. Жаров, В.В.Никифоров. Атлас инфекционных болезней,
59. Учебник:Travel and Tropical Medicine Manual / Jong E. C. [ed. by], Sanford Ch.; Saunders / Elsevier
60. Дүйсенова, А. Қ. Бруцеллез: жоғары медициналық оқу орындарының студенттері мен дәрігер-интерндерге арналған оқу құралы. - Алматы : [б. и.], 2011. - 100 б.
61. Санитарные правила, санитарные правила и нормы.

1. **The Department of** "Surgery-1"
2. **The level of training:** Bachelor's degree.
3. **Educational program:** "General Medicine»
4. **Course:** 4
5. **Name of the elective discipline:** Fundamentals of Surgical Diseases
6. **Number of credits:** 5 credits.
7. **Objective:** To develop students ' knowledge and skills in the diagnosis, treatment and prevention of surgical diseases
8. **Tasks:**
   - Provide knowledge about the clinic, diagnosis, determination of indications and contraindications to surgical treatment, principles of surgical intervention of the most common surgical diseases
   - To teach students the methods of examination of surgical patients
   - Improve interpersonal communication and patient counseling skills.
9. **Content of disciplines:** The concept of acute surgical diseases of the chest and abdominal organs, pathologies of the cardiovascular system. Much attention is paid to the issues of the clinic,

diagnosis, differential diagnosis and treatment of acute surgical diseases. In more detail, the content of the discipline is given in the standard and working program for the discipline

10. **Rationale for choosing a discipline:** In the course of studying the discipline, apply the principles of medical ethics and deontology, demonstrate the skills of working in the emergency department of surgery, teamwork and apply them in the classroom in the UCC , the ability to adapt to changing conditions , contrast emotions, prevent tension, identify and apply the main measures for the prevention of intrahospital infection, use the methods of examination, survey manual skills of examining patients, analyze and evaluate the results of functional laboratory and other diagnostic methods

11.Learning outcomes (competencies).

- LO 1 Demonstrates knowledge and understanding of physical research methods in the norm and pathology;major clinical symptoms of diseases of internal organs; mechanisms for the development of clinicalsymptoms in the defeat of internal organs on the basis of integration of knowledge on basic disciplines;clinicalmanifestations,treatmentand prevention ofdiseases ofinternal organs;
- LO2 Analyzes the results of the main symptoms and syndromes in acute surgical pathology of internal organs and systems, conducts prevention of common diseases
- LO 3 Analyzes laboratory and instrumental data, draws conclusions.
- LO4 Effectively communicates with colleagues, patients, relatives of patients Able to convey the information obtained in the process of searching and processing to other users.
- LO 5 Apply scientific principles, methods and knowledge to medical practice and research; capable of continuous self-education and development.

12. Prerequisites: Bachelor's degree 3-year course in LP "General Medicine"

13. Post-requirements: internship in LP "Surgery" for GP.

14. Literature:

Main:

1. Хирургиялық аурулар : оқулық / қазақ тіл. ауд. С. О. Сабербеков ; ред. А. Ф. Черноусов. - М. : ГЭОТАР - Медиа, 2018. - 576 б. +эл. опт. диск (CD-ROM).
2. Нұрмақов, А. Ж. Хирургиялық аурулар: оқулық / А. Ж. Нұрмақов, А. Н. Баймаханов. - М. : "Литтерра", 2017. - 256 бет. С
3. Сексенбаев, Д. С. Острые хирургические заболевания органов брюшной полости : учебное пособие / Д. С. Сексенбаев. - Шымкент : ЮКГФА, 2017. - 246 с.
4. Рахметов, Н. Р. Госпиталдық хирургия пәніне арналған практикум : оқу құралы / Н. Р. Рахметов. - Алматы : Эверо, 2013. - 136 бет. с.
5. Қалдыбаев, М. А. Ситуациялық тапсырмалар : жалпы хирургия пәніне арналған оқу құралы / М. А. Қалдыбаев ; ҚР денсаулық сақтау министрлігі. - Қарағанды : ЖК "Ақнұр", 2013. - 124 бет. с.
6. Нұрахманов, Б. Ж. Жүрек-қан тамыр хирургиясы : оқулық / Б. Ж. Нұрахманов. - Алматы : Эверо, 2012. - 334 бет. с.
7. Нурахманов, Б. Д. Клиническая хирургия : учебник / Б. Д. Нурахманов. - ; Рек. к печати Центр. Методич. Советом КазНМУ им. С. Д. Асфендиярова. - Алматы : Эверо, 2012. - 525 с.
8. Мәдікенов, Ө. М. Жалпы хирургия : оқу құралы = Общая хирургия : учеб. пособие / Ө. М. Мәдікенов, О. М. Мадыкенов. - Алматы : Эверо, 2012. - 456 бет. с.

Additional:

1. Қалдыбаев, М. А. Жалпы хирургияның тест сұрақтары: оқу құралы / М. А. Қалдыбаев; ҚР денсаулық сақтау министрлігі. - Қарағанды : ЖК "Ақнұр", 2013. - 370 бет. с.
2. Мәдікенұлы, Ө. Хирургиялық аурулар: оқулық-дәрістер / Ө. Мәдікенұлы ; ҚР денсаулық сақтау министрлігі; ҚазММА жоғары және ЖОО-нан кейінгі мамандықтар бойынша білім беру оқу-әдістемелік секциясы. - Алматы : Эверо, 2012. - 405 бет
3. Кузнецов, Н. А. Уход за хирургическими больными [Текст] : учебник / Н. А. Кузнецов, А. Т. Бронтвейн ; М-во образования и науки РФ. - ; Рек. ГОУ ВПО "Первый Моск. гос. мед. ун-т им. И. М. Сеченова". - М. : ГЭОТАР - Медиа, 2013. - 288 с. : ил

Electronic resources:

1. Нұрмақов, А. Ж. Хирургиялық аурулар [Электронный ресурс] : оқулық / А. Ж. Нұрмақов, А. Н. Баймаханов. - Электрон. текстовые дан. (59.9Мб). - М. : "Литтерра", 2017. - 256 бет с.
2. Госпитальная хирургия. Синдромология [Электронный ресурс] : учеб. пособие / А. Г. Абдуллаев [и др.] ; под ред. Н. О. Миланова. Ю. В. Бирюкова, Г. В. Синявина. Электрон. текстовые дан. (48,6 Мб). - М. : ГЭОТАР - Медиа, 2013. - 440 с. эл. опт. Диск
3. Хирургические болезни. Руководство к практическим занятиям [Электронный ресурс]: учеб. пособие / под ред. А. Ф. Черноусова. - Электрон. текстовые дан. (41.6Мб). - М. ГЭОТАР - Медиа, 2012. - 496 с.

Хирургические болезни [Электронный ресурс] : учебник / под ред. А. Ф. Черноусова. - Электрон. текстовые дан. (69.1Мб). - М. : ГЭОТАР - Медиа, 2012. - 664 с.

4. Жалпы хирургияның кейбір сұрақтары.
5. Садыканов У.С., Аубакирова Д.Н., Махметова Ж.С., Есембаева Л.К. , 2016https://aknurpress.kz/login/
6. Жалпы хирургияға арналған дәрістер.
7. Қаныбеков А., Баймұхамбетов Ж.Ж. , 2017/https://aknurpress.kz/login
8. Жалпы хирургия.Дұрманов Қ.Д. , 2017/https://aknurpress.kz/login
9. Хирургиялық аурулар: Оқулық: 2-томдық.2-том. / Ред. басқарған М.И. Кузин; Қазақ тіліне аударған оқулықтын жалпы ред басқарған А.Н. Баймаханова. - М.: ГЭОТАР-Медиа, 2018. - 528б. -http://rmebrk.kz/
10. Хирургиялық аурулар: Оқулық: 2-томдық.1-том. / Ред. басқарған М.И. Кузин; Қазақ тіліне аударған оқулықтын жалпы ред басқарған А.Н. Баймаханова. - М.: ГЭОТАР-Медиа, 2018. - 560б. http://rmebrk.kz/
11. Гостищев, В. К.Жалпы хирургия [Электрондық ресурс] : оқулық / В. К. Гостищев ; қазақ тіліне ауд. Д. А. Смаилов ; жауапты ред. М. Ө. Мұқанов. - М. : ГЭОТАР-Медиа, 2014. - 741, [8] с. http://elib.kaznu.kz/
12. Хирургиялық аурулар.[Электрондық ресурс] : екі томдық : оқулық / ред. басқ. М. И. Кузин ; қазақ тіліне ауд., жалпы ред. басқ. А. Н. Баймаханов. -М. : ГЭОТАР-Медиа, 2018.http://elib.kaznu.kz/
13. Мұқанов, М. Ө.Хирургиядағы диагностикалық және емдік манипуляциялар[Электрондық ресурс] : оқу-әдістемелік құрал / М. Ө. Мұқанов, А. Қаныбеков, Е. А. Курамысов; С. Ж. Асфендияров атын. ҚазҰМУ. - Қарағанды : АҚНҰР, 2017. - 149, [1] б.http://elib.kaznu.kz/
14. Нұрмақов, А. Ж.Хирургиялық аурулар