МИНИСТЕРСТВО НАУКИ И ВЫСШЕГО ОБРАЗОВАНИЯ РОССИЙСКОЙ ФЕДЕРАЦИИ,
МИНИСТЕРСТВО НАУКИ, ВЫСШЕГО ОБРАЗОВАНИЯ И ИННОВАЦИЙ
КЫРГЫЗСКОЙ РЕСПУБЛИКИ

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ПРОФЕССИОНАЛЬНЫЙ ЦИКЛ
Микробиология, вирусология

Аннотация дисциплины (модуля)

Закреплена за кафедрой **Гигиены, эпидемиологии и микробиологии**

Учебный план 310501_26_ l лд ин.plx
560001 Лечебное дело (Для иностранных студентов)

Квалификация **врач**

Форма обучения **очная**

Программу составил (и): д.м.н., профессор Садыбакасова Г.К., ст. преподаватель Иманалиев Ч.М.

Распределение часов дисциплины по семестрам

Семестр (<Курс>.<Семестр на курсе>)	2 (1.2)		3 (2.1)		Итого	
Недель	18		18			
Вид занятий	УП	РП	УП	РП	УП	РП
Лекции	32	32	16	16	48	48
Практические	32	32	32	32	64	64
Контактная работа в период теоретического обучения	0,3	0,3			0,3	0,3
Контактная работа в период экзаменационной сессии			0,5	0,5	0,5	0,5
В том числе инт.	4	4	4	4	8	8
Итого ауд.	64	64	48	48	112	112
Контактная работа	64,3	64,3	48,5	48,5	112,8	112,8
Сам. работа	55,7	55,7	12	12	67,7	67,7
Часы на контроль			29,5	29,5	29,5	29,5
Итого	120	120	90	90	210	210

1. ЦЕЛИ ОСВОЕНИЯ ДИСЦИПЛИНЫ	
1.1	The objectives of mastering the discipline "Microbiology, Virology" is to obtain knowledge about pathogenic and opportunistic microorganisms for humans; about their structure, physiology, genetics, ecology; about the role of microorganisms in the etiology and pathogenesis of infectious diseases; about immunity as a state of a macroorganism in which an infectious process develops and its changes under various influences of environmental factors; about methods of microbiological diagnostics, specific prophylaxis and therapy of infectious diseases.

2. МЕСТО ДИСЦИПЛИНЫ В СТРУКТУРЕ ООП	
Цикл (раздел) ООП:	Б1.О.03
2.1	**Требования к предварительной подготовке обучающегося:**
2.1.1	Biochemistry
2.1.2	Histology, embryology, cytology
2.1.3	normal physiology
2.1.4	Anatomy
2.1.5	Biology
2.1.6	Latin language
2.1.7	Immunology
2.2	**Дисциплины и практики, для которых освоение данной дисциплины (модуля) необходимо как предшествующее:**
2.2.1	General surgery
2.2.2	Hygiene
2.2.3	obstetrics and gynecology
2.2.4	Occupational diseases
2.2.5	Faculty Pediatrics
2.2.6	Epidemiology
2.2.7	Urology
2.2.8	Pediatric surgery
2.2.9	infectious diseases
2.2.10	Ophthalmology
2.2.11	Dentistry
2.2.12	Dermatovenereology
2.2.13	Infectious diseases in children
2.2.14	Otorhinolaryngology
2.2.15	Hospital Pediatrics
2.2.16	Phthisiology
2.2.17	Outpatient and emergency pediatrics

3. КОМПЕТЕНЦИИ ОБУЧАЮЩЕГОСЯ, ФОРМИРУЕМЫЕ В РЕЗУЛЬТАТЕ ОСВОЕНИЯ ДИСЦИПЛИНЫ (МОДУЛЯ)

В результате освоения дисциплины обучающийся должен

3.1	**Знать:**
3.1.1	Know:
3.1.2	Level 1
3.1.3	World order, the existence of the microworld, forms of symbiosis of different organisms, the influence of environmental factors on macroorganism, the role of microorganisms in the development of human diseases
3.1.4	Level 2
3.1.5	Features of the formation of the processes of symbiosis of the human body with microbes, the role of the resident microflora of the body in the development of opportunistic diseases;
3.1.6	the role of individual representatives of the microbial world in the etiology and pathogenesis of the most common human infectious diseases, their sensitivity to antimicrobial drugs
3.1.7	Features of the formation of the processes of symbiosis of the human body with microbes, the role of the resident microflora of the body in the development of opportunistic diseases;
3.1.8	the role of individual representatives of the microbial world in the etiology and pathogenesis of the most common human infectious diseases, their sensitivity to antimicrobial drugs

3.1.9	Level 3
3.1.10	Pathogenic and virulent properties of microbes and their role in the pathogenesis of an infectious disease. The role of opportunistic microflora in human pathology and in the development of nosocomial and iatrogenic diseases.
3.2	**Уметь:**
3.2.1	Ability:
3.2.2	Level 1
3.2.3	Solve typical tasks for the formation of a healthy lifestyle (such as: wash hands before eating, brush your teeth, follow the rules of personal hygiene, etc.), draw and distinguish between prokaryotes and eukaryotes
3.2.4	Level 2
3.2.5	To substantiate, from a microbiological standpoint, the choice of material and methods of microbiological research in the diagnosis, differentiation and identification of pathogens of infectious and opportunistic diseases, as well as the tactics of prescribing specific drugs for treatment and prevention
3.2.6	Level 3
3.2.7	Take material (sputum, pus, blood, smear from plaque, gum pocket, from the root of the tongue, pharynx, etc.) for bacteriological, virological, serological examination; isolate a pure culture of the infectious agent, differentiate and identify
3.3	**Владеть:**
3.3.1	Skills:
3.3.2	Level 1
3.3.3	Information about the unified laws of the development of living beings of the macro- and microworld, the unified structure of the carrier of genetic information, about variability and evolution
3.3.4	Level 2
3.3.5	Basic skills in working with material containing pathogenic and opportunistic microorganisms and methods of decontamination
3.3.6	Level 3
3.3.7	Knowledge to solve complex problems in emergency situations (during an outbreak of infection, food poisoning, an epidemic, a particularly dangerous infection, the use of bacteriological weapons) in order to quickly localize the infection, organize quarantine measures, decontaminate infected material, and carry out preventive procedures
3.3.8	Grading scale in APPENDIX No. 1

знать	know (i.e., to reproduce and explain the educational material with the required degree of scientific accuracy and completeness): The main stages in the development of microbiology. The relationship of the science with other disciplines, the objectives and research methods, the principle of microbial taxonomy. The structure and shape of the microbial cell, along with the functions of various structures, their chemical composition, physiology, the biochemistry of bacteria, the characteristics of nutrition, respiration, growth, and reproduction. The spread and role of microbes in the environment. The influence of environmental factors on microorganisms. The morphology, ultrastructure, classification, and nature of viruses. The features of DNA- and RNA-genome viruses, their cultivation, and the production and application of phages. The nature of prions and the characteristics of prion diseases. The features of bacterial and viral genetics. The role of mutations and recombinations in the evolution of bacteria. Extrachromosomal factors of heredity. The concept of genetic engineering and its practical application. Sources and methods of obtaining antibiotics, their classification by structure. Sources and methods of obtaining antibiotics, their classification by structure, spectrum, and mechanism of action. Features of genetic control of the pathogenicity and antibiotic resistance of microbes, mechanisms of resistance development. Complications during antibiotic therapy, methods for determining the sensitivity of microbes to antibiotics. Features of the formation of symbiotic processes between the human body and microbes, the role of the body's resident microflora in the development of opportunistic diseases. Mechanism and factors of the development of an infectious process. Pathogenicity and virulence of microbes. The role of opportunistic pathogenic microflora in human pathology and the development of hospital-acquired infections. Formation of immunity, its types, mechanisms and factors: immunocompetent cells, their interaction in cellular and humoral immunity. Antigens of microbes and viruses, their properties and types. Mechanisms of interaction between antigens and antibodies. Mechanisms of development of immediate and delayed-type allergies, forms of manifestation, and preventive measures.
Уметь	To be able to (i.e., to solve typical problems based on reproducing standard solution algorithms): comply with the rules of sanitary, hygienic, and anti-epidemic measures in a bacteriological laboratory. justify, from a microbiological perspective, the choice of material for testing in the diagnosis of infectious and opportunistic diseases. follow safety precautions and rules for working with material that poses a biological hazard. prepare specimens for microscopy from the material under study (pus, sputum, blood, etc.) and from a pure culture of microbes. Stain smears using simple and complex methods (Gram, Ziehl-Neelsen, Neisser, Gins, Romanovsky-Giemsa, etc.). Set up and work with phase-contrast, fluorescent, and dark-field microscopes. Prepare basic nutrient media for the cultivation of microorganisms. Perform inoculations of the test material onto liquid and solid nutrient media. Isolate a pure culture of aerobic and obligate anaerobic microbes.
Владеть	The student can demonstrate the ability to solve complex problems based on the acquired knowledge, skills, and abilities, applying them in atypical situations, i.e., they are proficient in: The main methods of sterilization, disinfection, and antiseptic treatment of instruments and equipment to prevent infection of the doctor and the patient. The skills to make a preliminary diagnosis based on the results of laboratory microbiological examination of adults and adolescents. The methodology for interpreting the results of microbiological research, determining the antimicrobial activity of antibiotic drugs, and the microbiologically based rules for their use in treating patients. The basic skills required to work with material containing pathogenic and opportunistic microorganisms. Methods for selecting antimicrobial and immunobiological drugs for adequate prevention and treatment of infectious diseases.