

MINISTRY OF EDUCATION AND SCIENCE OF THE KYRGYZ REPUBLIC

Government-run Educational-Institution of Higher Professional Education
Kyrgyz-Russia Slavic University
School of Medicine

ENDORSED BY
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Medical biology
Course Outline (Module)

Assigned to the department of
Academic Curriculum *

Physics, Medical Informatics and Biology
560001 – KR General Medicine (for foreign students)

Qualification

Specialist

Mode of Study

Intramural

The Course outline developed by: Karaeva R.R., Morkovkina A.B., Kobzar V.N.

Course Hours Scheduling (per semester)

Semester Academic Year	1(1.1)		Total	
	18			
Weeks	18			
Type of Training	AC	CO	AC	CO
Lectures	18	18	18	18
Practical Session	36	36	36	36
Contact work during the period of theoretical training	0,3	0,3	0,3	0,3
Including interactive session	4	4	4	4
Total in class Session	54	54	54	54
Contact work	54,3	54,3	54,3	54,3
Individual work	53,7	53,7	53,7	53,7
Total	108	108	108	108

1. COURSE OUTLINE OBJECTIVES	
1.1	The formation of students' theoretical knowledge and skills used to study the function and structure of the human body at the molecular, cellular, tissue, organ, organismal levels, necessary for the formation of a holistic natural-science outlook in the practice of a doctor.
1.2	Acquaintance with the principles of the structural and functional organization of living systems: features of the biological level of the organization of matter, the principles of reproduction and development of living systems; the laws of genetics, their role in evolution, cell biology, the diversity of living organisms, the principles of their classification, the main functional systems, the relationship with the environment of supraorganismal systems, which are of interest to practical public health.
1.3	Preparing students for a systematic perception of biomedical, general medical, social and clinical disciplines and the formation of a natural-scientific worldview and the logic of biological thinking, which are necessary for the subsequent practical activities of a specialist in the field of medical and preventive care; Developing the ability to use various kinds of reference materials and manuals necessary for solving practical medical problems.
2. PLACE OF THE COURSE IN THE EDUCATIONAL PROGRAM	
Educational Program Units:	B1O
2.1	Students' Preliminary Training Requirements:
2.1.1	Biology, anatomy and general biology which are included in a high school level
2.1.2	Chemistry in the frame work of a high school level
2.2	Course Units and Practical Sessions imposing the prior Proficiency:
2.2.1	Microbiology, virology
2.2.2	Histology
2.2.3	Biochemistry
2.2.4	Medical genetics
2.2.5	Normal physiology
2.2.6	Pathophysiology, clinical pathophysiology
2.2.7	Epidemiology
2.2.8	Immunology
2.2.9	General hygiene
2.2.10	Cytology
3. STUDENTS' COMPETENCIES RESULTING FROM THE COURSE UNIT (MODULE)	
IC-1 - is able and ready to analyze socially significant problems and processes, use the methods of natural sciences, mathematics and the humanities in various types of professional and social activities	
Know:	
Level 1	basic biological concepts
Level 2	basic scientific medical and biological terminology
Level 3	the main sources of information, bibliographic resources, the methodology for processing scientific and technical information on the Internet and specialized databases, the main methods of working with specialized software for solving standard problems of professional activity
Ability:	
Level 1	use biomedical terminology, information and communication technologies, incl. research methods for solving standard problems of professional activity
Level 2	apply basic research methods to solve professional problems
Level 3	- apply information, bibliographic resources, processing methods, search for scientific and technical information using general and specialized databases and use specialized software when

	carrying out theoretical calculations and processing - experimental data for solving standard problems of professional activity
Skills:	
Level 1	- elementary methods of work in a biological, physical, chemical laboratory; - general safety rules for handling computers, laboratory equipment and chemical reagents
Level 2	biomedical and other terminology; skills of mathematical, biological, chemical and biochemical thinking, skills of independent work with reference, educational and scientific literature
Level 3	skills in working with scientific and educational portals, basic skills in using standard as well as specialized software and databases for statistical processing of research results and presenting them to the scientific community
Final Students' Competences	
3.1	Know:
	<ul style="list-style-type: none"> - definitions, laws and basic concepts of biology; - structure and functions of the most important chemical compounds (nucleic acids, proteins); - the concept of signals and the nature of their occurrence; - the laws of genetics, its significance for medicine; - general patterns of the origin and development of life - anthropogenesis and ontogenesis of man; - basic concepts and problems of the biosphere; - the main patterns of development and vital activity of the organism of an adult and a teenager; - histofunctional features of tissue elements, methods for their study; - age-sex and individual features of the structure and development of a healthy and diseased organism
3.2	Ability:
	<ul style="list-style-type: none"> -work with light microscopes; - solve genetic problems; - use educational, scientific literature, the Internet for the professional activities of a doctor; - solve situational problems for modeling medical genetic counseling; - draw up a pedigree and determine the type and nature of inheritance using the genealogical method; - use knowledge to solve situational problems in genetics
3.3	Skills:
	<ul style="list-style-type: none"> - the skills of displaying the studied objects and processes in diagrams, drawings, animations; - skills in drawing up diagrams illustrating the causes and mechanisms of chromosomal pathology; - skills in making temporary preparations for microscopy (onion and elodea skin cells, inclusions in the cell); - technique of working with a light microscope; - basic information transformation technologies: text, spreadsheet editors; - methods for studying heredity in humans (cytogenetic method, genealogical method); - information on the principles of sterilization, disinfection and antiseptic treatment of instruments, etc.; - skills to search the Internet for relevant information on biology