



**School of Medicine**

Provision was considered at the meeting of the EMC of School of Medicine, recommended for approval Protocol No. 10 as of " 28 " 06, 2024

**APPROVE**  
Vice rector for academic affairs  
Cand. Sc., Assoc. Prof.  
Zhamangulov A.A.

«28» June 2024



**GRADUATE MODEL**

**Specialty: 560001 «General Medicine»  
qualification «Doctor»**

**Specialty: «General Medicine»  
qualification «Doctor»**

The model of a graduate of Adam University, specialty - 560001 "General Medicine" with the qualification "Doctor" of the School of Medicine was discussed at a meeting of the Department of Morphological, Therapeutic and Surgical Disciplines (DMTSD) on February 28, 2024. Protocol No. 10. Recommended for use by the EMC of School of Medicine from April, 16, 2024. Protocol No. 9.

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## **Definition, basic concepts**

A **model** is a system of material or imaginary objects that reflects the essential features (properties) of a real object that meet the goals of modeling.

**Modeling** is the process of exploring a real object using a model. The original object is called the prototype or the original.

**The purpose of modeling** is to assign a future model. The goal defines the properties of the original object that should be reproduced in the model.

**Modeling in education** as a method of cognition is carried out in several stages:

- formation of the composition of the main basic elements of the model;
- formation of a general block diagram;
- design of control actions.

**The graduate model** is the goal and system of personality qualities of the graduate, the end result of the educational system based on the acquisition of competencies for the entire period of study, with the willingness to apply the accumulated knowledge, skills and abilities in professional activity.

**Competence** is a dynamic combination of personal qualities, knowledge, skills and abilities necessary to engage in professional activity in the specialty (to know how to do it).

**Competence** is the integration of professional, personal qualities, knowledge and skills that ensure the effective implementation of competencies (to know what to do).

**The graduate's competence model** is a complex integral image of the final result of the implemented educational process.

**Credit (credit unit)** is a conditional measure of the labor intensity of the main professional educational program;

A **module** is a part of an academic discipline that has a certain logical completeness in relation to the established goals and results of training and upbringing.

**The direction of training** is a set of educational programs for the training of personnel with higher professional education (specialists) of various profiles, integrated on the basis of the generality of fundamental training.

**The main educational program** is a set of educational and methodological documentation regulating the goals, expected results, content and organization of the educational process in this area of training (specialty) of higher professional education.

**Educational outcomes** are expected indicators of what the learner should know, understand and/or be able to accomplish at the end of the learning process. They can relate to a single course, module or period of study, as well as to the first or second level program as a whole.

**Learning outcomes** are competencies acquired as a result of training in the main educational program.

A **cycle of disciplines** is a part of an educational program or a set of academic disciplines that has a certain logical completeness in relation to the established goals and results of training, education;

## 1. The procedure for the formation of competencies

The procedure for forming the list of competencies of the Main Curriculum of SM is based on the list of competencies of the State Higher Educational Institution in the field of training 560001 "General Medicine" and includes additional competencies according to the mission and specifics of the activities of the SM of Adam University (AU).

*Table of competencies*

Competence code	List of competencies according to State Educational Standard of Higher Professional Education	List of competencies of a graduate of SM of AU
<b>a) universal:</b>		
<b>General scientific competencies (GSC)</b>		
<b>GSC-1</b>	able 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;	able to analyze socially significant problems and processes, understand the connection between natural and fundamental disciplines for further development of clinical disciplines, understand the essence and social significance of the future profession, use in practice the methods of humanities, natural sciences, biomedical and clinical sciences in various types of professional and social activities;
<b>GSC-2</b>	capable of analyzing ideological, socially and personally significant problems, basic philosophical categories, and self-improvement;	capable of analyzing ideological, socially and personally significant problems, basic philosophical categories, self-improvement, organizing his own activities, choosing standard methods, organizing his own activities, choosing standard methods and ways of performing professional tasks, evaluating their effectiveness and quality;
<b>GSC-3</b>	able to analyze significant political events and trends, to master the basic concepts and laws of the world historical process, to respect and care of historical heritage and traditions, to possess knowledge of historical and medical terminology;	able to analyze significant political events and trends, to master the basic concepts and laws of the world historical process, to respect and care of historical heritage and traditions, to possess knowledge of historical and medical terminology, to make decisions in standard and non-standard situations and be responsible for them;

<b>GSC-4</b>	can analyze economic problems and social processes, can use methods of economic relations in the healthcare system;	he is able to analyze economic problems and social processes that have had a great impact on historical development, use methods of economic relations in the healthcare system;
<b>GSC-5</b>	capable of logical and reasoned analysis, public speech, discussion and polemics, educational and instructional activities, cooperation and conflict resolution; tolerance;	capable of logical and reasoned analysis, public speech, discussion and polemics, educational and educational activities, cooperation and conflict resolution; tolerance, be able to logically and correctly build the essence of discipline and various situations;
<b>GSC-6</b>	able and ready to learn one of the foreign languages at the level of everyday communication, to written and oral communication in the state and official languages;	able and ready to learn one of the foreign languages at the level of everyday communication, to written and oral communication in the state language and official languages, to be able to express his thoughts orally and in writing, to understand the basic essence of the discipline, the program;
<b>GSC-7</b>	able to use management methods; organize the work of the team, find and make responsible management decisions within their professional competence;	able to use management methods; organize the work of the team, find and make responsible management decisions within his professional competence, make responsible decisions in various circumstances;
<b>GSC-8</b>	able to carry out its activities taking into account the moral and legal norms accepted in society; comply with the rules of medical ethics, laws and regulations on working with confidential information; maintain medical secrecy.	able to carry out its activities taking into account the moral and legal norms accepted in society; comply with the rules of medical ethics, laws and regulations on working with confidential information; maintain medical secrecy, know the peculiarities of psychology of various age categories;
<b>Instrumental Competences (IC)</b>		
<b>IC-1</b>	ability to work independently on a computer (basic skills);	ability to work independently on a computer (elementary skills), use computer programs to study various disciplines, find the necessary information on the Internet, is able to work with information in global computer networks;
<b>IC-2</b>	ready for written and oral communication in the state language and official languages, able to master one of the foreign languages at the level of everyday communication;	ready for written and oral communication in the state language and official languages, able to master one of the foreign languages at the level of everyday communication.

<b>IC -3</b>	able to use management methods; organize the work of performers; find and make responsible management decisions in the conditions of different opinions and within his professional competence;	able to use management methods; organize the work of performers; find and make responsible management decisions in conditions of different opinions and within his professional competence.
<b>IC – 4</b>	willingness to work with information from various sources.	willingness to work with information from various sources, using information, bibliographic resources, terminology, information and communication technologies, to be able to analyze and apply the collected information in rapidly changing modern conditions, ready to use regulatory documents in their activities.
<b>Socio-personal and general cultural competencies (SPGCC)</b>		
<b>SPGCC -1</b>	able to implement ethical and deontological aspects of medical activity in communication with colleagues, nurses and junior staff, adults and children;	able to implement ethical and deontological aspects of medical activity in communication with colleagues, nurses and junior staff, adults and children, work in a team and team, communicate effectively with colleagues, management, patients.
<b>SPGCC -2</b>	able and ready to identify the natural-scientific essence of the problems that arise in the course of a doctor's professional activity;	able and ready to identify the natural-scientific essence of the problems that arise in the course of a doctor's professional activity;
<b>SPGCC -3</b>	capable of analyzing medical information based on the principles of evidence-based medicine;	capable of analyzing medical information using modern information technologies, based on the principles of evidence-based medicine;
<b>SPGCC -4</b>	able to apply modern socio-hygienic methods of collecting and medical-statistical analysis of information on the health indicators of the child population;	able to apply modern socio-hygienic methods of collecting and medical-statistical analysis of information on the health indicators of the child population;
<b>SPGCC -5</b>	able to use methods of assessing natural (including climatogeographic) and medico-social environmental factors in the development of diseases in children and adolescents, to carry out their correction;	is able to use methods of assessing natural (including climatogeographic) and medico-social environmental factors in the development of diseases in children and adolescents, to carry out their correction;
<b>Professional competencies (PC)</b>		

<b>PC-1</b>	able to analyze the results of his own activities to prevent medical errors, while being aware of disciplinary, administrative, civil, criminal liability;	able to analyze the results of his own activities to prevent medical errors, while being aware of disciplinary, administrative, civil, criminal liability;
<b>PC-2</b>	able and ready to conduct and interpret a survey, physical examination, clinical examination, the results of modern laboratory and instrumental studies, write a medical record of an outpatient and inpatient patient of an adult and a child;	able and ready to conduct and interpret a survey, physical examination, clinical examination, the results of modern laboratory and instrumental studies, write a medical record of an outpatient and inpatient patient of an adult and a child, taking into account national specifics and international practice, identify various symptoms, syndromes and pathological conditions in patients;
<b>PC -3</b>	can conduct pathophysiological analysis of clinical syndromes, substantiate pathogenetically justified methods (principles) of diagnosis, treatment, rehabilitation and prevention among adults and children, taking into account their age and sex groups;	capable of conducting pathophysiological analysis of clinical syndromes, substantiate pathogenetically justified methods (principles) of diagnosis, treatment, rehabilitation and prevention among adults and children, taking into account their age and gender groups; solve professional tasks of a doctor based on pathophysiological analysis of specific data on pathological processes, conditions, reactions and diseases;
<b>PC -4</b>	able to apply methods of asepsis and antiseptics, use medical instruments, master the technique of caring for sick adults and children;	able to apply aseptic and antiseptic methods, use medical instruments, master the technique of caring for sick adults and children, know the principles of organization of work of medical institutions, the device and equipment of medical departments of hospitals; theoretical foundations and modern concept of nursing, organization of work of junior and secondary medical personnel;
<b>PC -5</b>	capable to work with medical and technical equipment used in working with patients, own computer equipment, receive information from various sources, work with information in global computer networks, use the capabilities of modern information technologies to solve professional tasks;	capable of working with medical and technical equipment used in working with patients, possess computer technology, receive information from various sources, work with information in global computer networks, use the capabilities of modern information technologies to solve professional problems, the basic laws of

		development and vital activity of the human body based on the structural organization of all levels;
<b>PC -6</b>	able to apply up-to-date information on the health indicators of the population at the level of health facilities;	is able to apply up-to-date information on public health indicators at the level of a medical and preventive institution (MPI), readiness to apply the basic principles of organization and management in the field of public health protection, in medical organizations and their structural divisions
<b>Offensive activity</b>		
<b>OA -7</b>	to carry out preventive measures to prevent infectious, parasitic and non-communicable diseases, to carry out sanitary and educational work on hygienic issues;	to carry out preventive measures to prevent infectious, parasitic and non-communicable diseases, to carry out sanitary and educational work on hygienic issues;
<b>OA -8</b>	to carry out preventive measures with the attached population to prevent the occurrence of the most common diseases, carry out general health measures to form a healthy lifestyle taking into account risk factors, give recommendations on healthy nutrition;	able to carry out preventive measures with the attached population to prevent the occurrence of the most common diseases, carry out general health measures to form a healthy lifestyle taking into account risk factors, give recommendations on healthy nutrition;
<b>OA -9</b>	able to select individuals for observation, taking into account the results of mass tuberculin diagnostics and fluorographic examination, to evaluate its results for the purpose of early detection of tuberculosis;	able to select individuals for observation, taking into account the results of mass tuberculin diagnostics and fluorographic examination, to evaluate its results for the purpose of early detection of tuberculosis;
<b>OA -10</b>	capable of carrying out anti-epidemic measures, protecting the population in the foci of particularly dangerous infections, with the deterioration of the radiation situation and natural disasters;	capable of carrying out anti-epidemic measures, protecting the population in the foci of particularly dangerous infections, with the deterioration of the radiation situation and natural disasters, readiness for the management and treatment of patients in need of pre-hospital medical care in urgent conditions;
<b>Diagnostic activity</b>		

<b>DA -11</b>	capable and ready to make a diagnosis based on the results of biochemical and clinical studies, taking into account the course of pathology in organs, systems and the body as a whole;	able and ready to make a diagnosis based on the results of biochemical and clinical studies, taking into account the course of pathology in organs, systems and the body as a whole, analyze the results of biochemical and clinical studies taking into account the course of pathological processes, having the techniques of diagnosis, know the etiology, pathogenesis of disease development and clinical thinking;
<b>DA -12</b>	able to analyze the patterns of functioning of individual organs and systems, use knowledge of anatomical and physiological features, basic methods of clinical and laboratory examination and assessment of the functional state of the body of an adult and children, for timely diagnosis of diseases and pathological processes;	able to analyze the patterns of functioning of individual organs and systems, use knowledge of anatomical and physiological features, basic methods of clinical and laboratory examination and assessment of the functional state of the body of an adult and children, for timely diagnosis of diseases and pathological processes. Readiness to identify pathological conditions, symptoms, disease syndromes, nosological forms in patients.
<b>DA -13</b>	able to identify the main pathological symptoms and syndromes of diseases in patients, using knowledge of the basics of biomedical and clinical disciplines, taking into account the course of pathology in organs, body systems as a whole, analyze the patterns of functioning of organs and systems in various diseases and pathological processes, use an algorithm for diagnosis (main, concomitant, complications) taking into account the ICD-10, perform basic diagnostic measures to identify urgent and life-threatening conditions.	The main pathological symptoms and syndromes of diseases in patients taking into account ICD-10. Perform basic diagnostic measures to identify urgent and life-threatening conditions, having a method of providing emergency care to patients: resuscitation measures in case of clinical death; mouth-to-mouth artificial respiration; methods of cleaning the upper respiratory tract.
<b>Therapeutic activity</b>		
<b>TA -14</b>	able to perform basic therapeutic measures for the most common diseases and conditions in adults and children;	able to perform basic therapeutic measures for the most common diseases and conditions in adults and children, ready for the management and treatment of patients in need of emergency pre-hospital medical care;

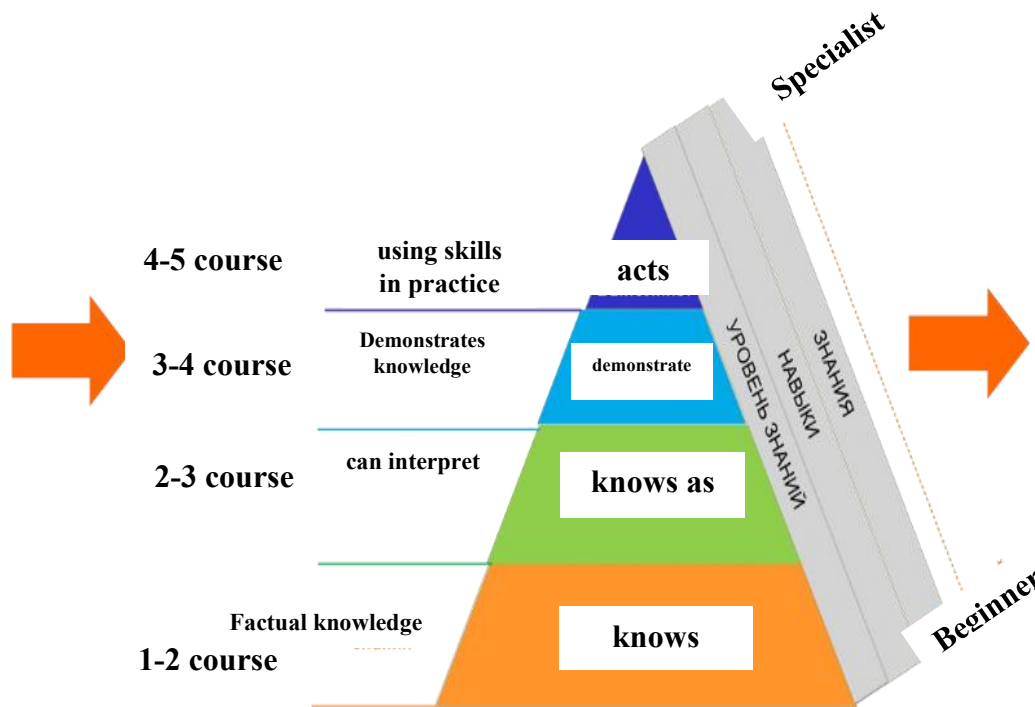
<b>TA -15</b>	able to prescribe adequate treatment to patients in accordance with the diagnosis;	able to prescribe adequate treatment to patients in accordance with the diagnosis, readiness for the management and treatment of patients in need of pre-hospital medical care in urgent conditions;
<b>TA -16</b>	able to provide first aid to the adult population and children in case of urgent and life-threatening conditions, to send patients to hospital in a planned and emergency manner;	able to provide first aid to the adult population and children in case of urgent and life-threatening conditions, to send patients to hospital in a planned and emergency manner;
<b>TA -17</b>	able to prescribe adequate treatment to patients in accordance with the diagnosis;	able to prescribe adequate treatment to patients in accordance with the diagnosis, readiness;
<b>TA - 18</b>	it is able to provide first aid to the adult population and children in case of urgent and life-threatening conditions, to send patients to hospital in a planned and emergency manner;	it is able to provide first aid to the adult population and children in case of urgent and life-threatening conditions, to send patients to hospital in a planned and emergency manner;
<b>Rehabilitation activity</b>		
<b>RA - 19</b>	able and ready to apply rehabilitation measures (medical, social and professional) among adults and children with the most common pathological conditions and injuries of the body;	able and ready to apply rehabilitation measures (medical, social and professional) among adults and children with the most common pathological conditions and injuries of the body, readiness to provide emergency medical care to patients with various pathologies in emergency situations, participation in medical evacuation;
<b>RA - 20</b>	able to give recommendations on the choice of regimen, determine indications and contraindications for the appointment of physical therapy, physiotherapy, non-drug therapy, use the main resort factors in the treatment of adults and children;	able to give recommendations on the choice of regimen, determine indications and contraindications for the appointment of physical therapy, physiotherapy, non-drug therapy, use the main resort factors in the treatment of adults and children;
<b>Educational activity</b>		
<b>EA -21</b>	capable of teaching secondary and junior medical personnel and patients the rules of sanitary and hygienic regime, ethical and deontological principles;	capable of teaching secondary and junior medical personnel and patients the rules of sanitary and hygienic regime, ethical and deontological principles;
<b>EA -22</b>	capable of teaching the adult population, children the rules of medical behavior; to conduct hygienic procedures, to form healthy lifestyle skills;	capable of teaching the adult population, children the rules of medical behavior; to conduct hygienic procedures, to form healthy lifestyle skills;
<b>Organizational management activity</b>		
<b>OMA - 23</b>	able to use the regulatory documentation adopted in the healthcare of the Kyrgyz Republic;	able to use the regulatory documentation adopted in the healthcare of the Kyrgyz Republic;

<b>OMA - 24</b>	able to use the knowledge of the organizational structure, healthcare organizations. Referral and redirection system;	able to use knowledge of the organizational structure, healthcare organizations, referral and redirection system, readiness to apply the basic principles of organization and management in the field of healthcare, medical organizations and their structural divisions;
<b>OMA - 25</b>	able to ensure the rational organization of the work of secondary and junior medical personnel of medical and preventive institutions;	able to ensure the rational organization of the work of secondary and junior medical personnel of medical and preventive institutions;
<b>OMA - 26</b>	must know the main issues of the examination of working capacity (temporary) among the population, carry out the prevention of disability among adults and children;	must know the main issues of the examination of working capacity (temporary) among the population, carry out the prevention of disability among adults and children, readiness to participate in the assessment of the quality of medical care using basic medical statistical indicators;
<b>Research activity</b>		
<b>RA -27</b>	ready to study scientific and medical information, domestic and foreign experience on the subject of research;	ready to study scientific and medical information, domestic and foreign experience on the subject of research, including general and specific questions on the use of modern search methods in various directions;

## CURRICULUM

№№	Наименование	1 курс	2 курс	3 курс	4 курс	5 курс
<b>Фундаментальные дисциплины</b>						
0.1.1	Русский язык					
0.1.2	Русский язык					
0.1.3	История России, истории и культуры					
0.1.4	История Казахстана					
0.1.5	Биология					
0.1.6	Математика					
<b>Медицинские и естественнонаучные дисциплины</b>						
<b>0.2. Анатомия</b>						
0.2.1	Материальная информация					
0.2.2	Физиология					
0.2.3	Системы с анатомией физиологии					
0.2.4	Клиника					
<b>0.3. Физиология человека и смежные дисциплины</b>						
0.3.1	Базовые знания					
<b>0.4. Медицинские дисциплины</b>						
0.4.1	Базовые знания					
<b>0.5. Медицинские дисциплины</b>						
0.5.1	Базовые знания					
0.5.2	Базовые знания					
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0.5.19	Базовые знания					
0.5.20	Базовые знания					
<b>0.6. Медицинские дисциплины</b>						
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<b>0.7. Медицинские дисциплины</b>						
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<b>0.8. Медицинские дисциплины</b>						
0.8.1	Базовые знания					
0.8.2	Базовые знания					
0.8.3	Базовые знания					
0.8.4	Базовые знания					

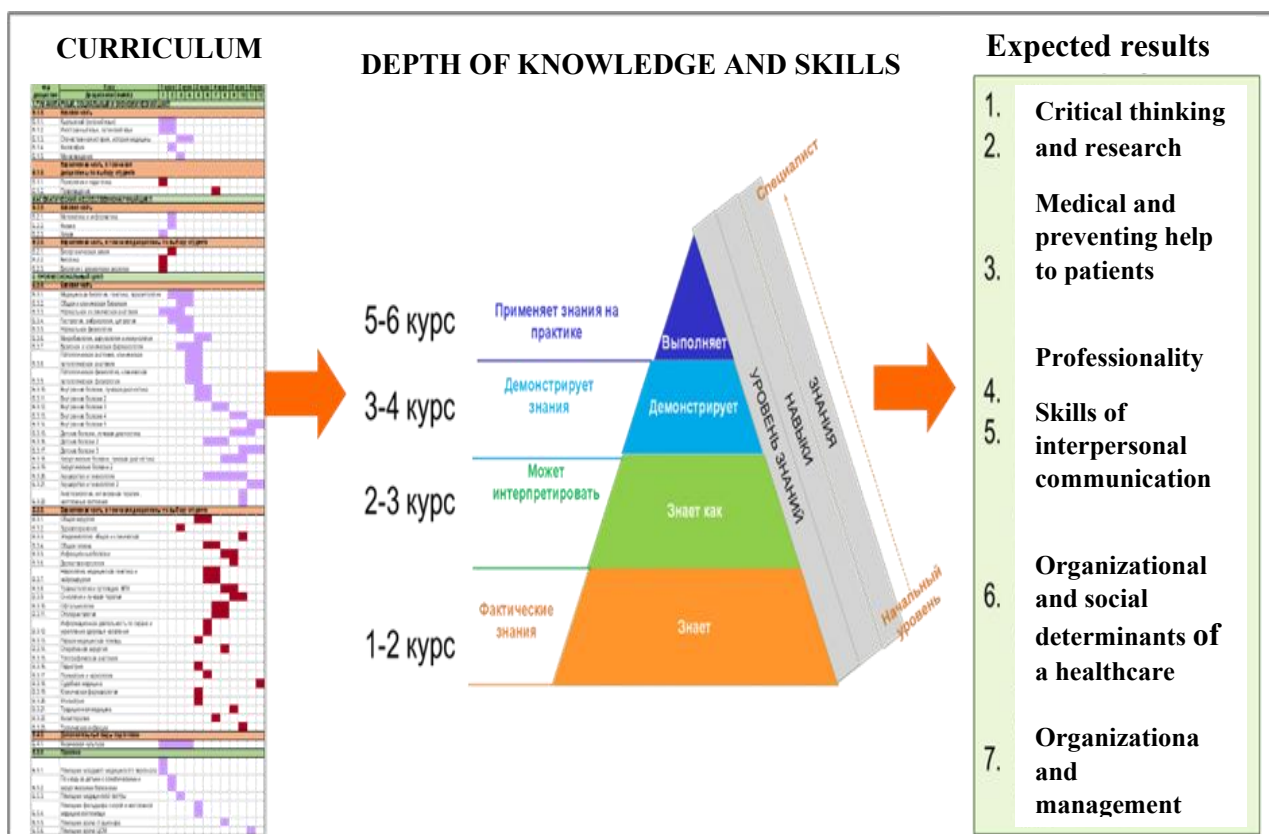
## DEPTH OF KNOWLEDGE AND SKILLS



## Expected results

1. Medical skills
2. Critical thinking and research
3. Medical and preventing help to patients
4. Professionalism
5. Skills of interpersonal communication
6. Organizational and social determinants of a healthcare
7. Organization and management

Curriculum "General Medicine": Correlation of the curriculum (6 years of study) with the level (depth) of knowledge and expected results



## 1. The graduate's competence model

The graduate model reflects the goals of education, that is, the expected results of education.

**The goal (expected result)** of modern education, in our opinion, can be considered the development of those personality traits that are necessary for self-development, for professional self-realization, at the same time can be fully used by society.

The graduate model is dynamic and is based on the principle of continuous quality improvement based on feedback and advance communication.

### Expected learning outcomes

**Result of training 1:** Able to use basic knowledge of humanities, natural sciences, economic disciplines in professional activities.

**Result of training 2:** Able to carry out business communication, to express their thoughts in a reasoned and clear manner in the state and official languages, to speak one of the foreign languages at the level of social communication.

**Result of training 3:** Able to implement ethical, deontological principles, analyze the results of their own activities and apply the knowledge gained for rational use in professional activities.

**Result of training 4:** Able to own and use information resources, computer technology, medical equipment to solve professional tasks.

**Result of training 5:** is able to apply fundamental knowledge in the assessment of morpho functional and physiological states of the body for timely diagnosis of diseases and detection of pathological processes.

**Result of training 6:** Able to interpret the results of biochemical and clinical studies when making a diagnosis.

**Result of training 7:** Is able to carry out preventive and anti-epidemic measures aimed at preventing the occurrence of diseases, preserving and strengthening health.

Training result 8: can analyze, interpret the data obtained, and prescribe adequate treatment and provide primary medical care, make decisions in case of emergency and life-threatening situations

Result of training 9: is able to carry out rehabilitation activities among the adult population, adolescents and children using means of physical therapy , physiotherapy, resort factors.

Result of training 10: has the skills of management in the healthcare system, maintain accounting and reporting documentation, analyze statistical data.

Result of training 11: is able to analyze scientific literature and official static reviews, participates in solving research tasks for the development of new methods and technologies in the field of medicine.

### **Educational Results (ER)**

**for the specialty " General Medicine" on the basis of the State Standard 2015**  
**ER1 - able to use basic knowledge of humanities, natural sciences, economics in professional activities.**

$$\text{ER1} = \text{GSC1} + \text{GSC2} + \text{GSC3} + \text{GSC4} + \text{SPC2}$$

GSC-1 -able to analyze socially significant problems and processes, to use in practice the methods of humanities, natural sciences, medical-biological and clinical sciences in various types of professional and social activities;

GSC-2 - able to analyze world view, socially and personally significant problems, the basic philosophical categories, to self-improvement;

GSC-3 -able to analyze significant political events and trends, to comprehend basic concepts and patterns of the world historical process, to respect and cherish historical heritage and traditions, to possess knowledge of historical and medical terminology ;

GSC-4 - able to analyze economic problems and social processes, to use the methods of economic relations in the health care system;

SPC -2 - able and willing to identify the natural scientific essence of the problems arising in the course of the professional activity of a doctor.

**ER2 - able to communicate professionally, express his/her thoughts clearly and reasonably in the state and official languages, to know one of the foreign languages at the level of social communication.**

$$\text{ER2} = \text{GSC 5} + \text{GSC 6} + \text{IC2}$$

GSC-5 -able to analyze logically and reasonably, to speak publically, to debate and

argue, to teach and educate, to cooperate and resolve conflicts; to be tolerant;

GSC-6 - able and willing to study one of the foreign languages at the household level, to write and communicate verbally in the state and official languages;

IC-2 - willing to communicate in the state language and the official language, is capable of mastering one of the foreign languages at the level of household communication;

**ER3 -able to implement ethical, deontological principles, to analyze the results of its own activities and apply the acquired knowledge for rational usage in professional activity.**

**PO3 = CJK1+OK7+OK8+IK3+PK1 +PK21+PK25**

SPC-1 - able to implement ethical and deontological aspects of medical activity in communication with colleagues, nurses and junior staff, adults and children;

GSC-7 - able to use management methods; to organize teamwork, to find and make responsible administrative decisions within own professional competence;

GSC-8 -able to act in accordance with socially accepted moral and legal norms; to comply in accordance with the rules of medical ethics, laws and regulations concerning the confidentiality of information; to maintain medical confidentiality;

IC -3 -able to use management methods; to arrange the work of executives; to find and make responsible administrative decisions within the range of opinions and within the limits of own professional competence;

PC-1 - able to analyze the results of own activities to prevent medical errors, being aware of disciplinary, administrative, civil and criminal liability;

PC-21 - able to train nursing staff and patients in the rules of sanitary and hygienic rules, ethical and deontological principles;

PC-25 - able to provide rational organization of labor of paramedical and nursing staff of medical and preventive institutions;

**ER4 - able to master and use information resources, computer equipment, medical devices for the solution of professional objectives.**

**ER4 = IC1+ IC4+SPC3+PC5+PC27**

IC-1 - ability to work independently with a computer (elementary skills);

PC-5 -able to work with medical and technical equipment which is used in the process of patient treatment, to possess computer skills, to obtain information from various sources, to work with information in global computer networks, to apply the capabilities of modern information technology for the solution of professional objectives;

SPC-3 able of analyzing medical information based on the principles of evidence-based medicine;

PC-5 able to work with medical and technical equipment which is used in the process of patient treatment, to possess computer skills, to obtain information from various sources, to work with information in global computer networks, to apply the capabilities of modern information technology for the solution of professional objectives;

PC-27 willing to study scientific and medical information, national and foreign experience in the subject of research;

**ER5 - Able to use the basic knowledge while assessing the morphofunctional and physiological conditions of the body for early diagnosis of diseases and detection of pathological processes.**

**ER5 = PC3+PC12+PC13**

PC-3 -able to provide pathophysiological analysis of clinical syndromes, to prove pathogenetically justified methods (principles) of diagnosis, treatment, rehabilitation and prevention among adults and children, considering their age and sex groups;

PC-12 -able to analyze the regularities of functioning of individual organs and systems, to use knowledge of anatomical and physiological features, basic methods of clinical and laboratory examination and evaluation of the functional condition of the adult and child body, for effective diagnosis of diseases and pathological processes;

PC-13 -able to identify the main pathological symptoms and disease syndromes in patients, according to the basic knowledge of biomedical and clinical disciplines, considering the course of pathology of organs, body systems in general, analyze the patterns of functioning of organs and systems in various diseases and pathological processes, to use the algorithm of diagnosis (main, related, complications) with the ICD-10, perform basic diagnostic measures to identify urgent and life-threatening conditions;

**ER6 - able to interpret the results of biochemical and clinical researches during diagnosis.**

**ER6 = PC2+PC4+ PC11**

PC-2 -able and willing to conduct and interpret an interview, physical examination, clinical examination, results of modern laboratory and instrumental research, to write a medical record of an outpatient and inpatient adult and child;

PC-4 - able to use aseptic and antiseptic methods, use medical instruments, know the techniques of nursing adults and children;

PC-11 - able and willing to make a diagnosis based on the results of biochemical and clinical studies, considering the pathology of the organs, systems and the body in general;

**ER7 - able to provide preventive and anti-epidemic measures aimed at preventing the emergence of disease, preserving and strengthening health.**

**ER7 = SPC5+PC7+PC8+PC9+PC10+PC22**

SPC -5 - able to use methods to assess natural (including climatic and geographical) and medical and social environmental factors in the development of diseases among children and adolescents, to provide their correction;

PC-7 - able to implement preventive measures to prevent infectious, parasitic and non-infectious diseases, provide sanitary enlightenment on hygienic issues;

PC-8 -able to conduct preventive measures with the attached population to prevent the occurrence of the most common diseases, to implement general health measures to promote a healthy lifestyle, considering the risk factors, to make recommendations for a healthy diet;

PC-9 - able to perform selection of persons for observation, with regard to the results

of mass tuberculinodiagnosics and fluorographic examination, to assess its results in order to detect tuberculosis at an early stage;

PC-10 - able to perform anti-epidemic measures, protection of population in areas of particular hazardous infections, in case of deteriorating radiation situation and natural disasters;

PC-22- able to teach adults and children of the medical behavior rules; to implement them hygienic procedures, to develop skills for a healthy lifestyle;

**ER8 - Is able to analyze and interpret the obtained data and prescribe appropriate treatment and provide first aid, to make decisions in case of emergency and life-threatening situations**

$$\text{ER8} = \text{PC8} + \text{PC14} + \text{PC15} + \text{PC16} + \text{PC17} + \text{PC18}$$

PC-8 able to provide preventive measures with the attached population to prevent the occurrence of the most common diseases, to provide general health measures to promote a healthy lifestyle, in accordance with risk factors, to give recommendations for a healthy diet;

PC-14 - able to implement basic therapeutic measures for the most common diseases and conditions of adults and children; PC-15 - able to prescribe appropriate treatment for patients in accordance with the diagnosis;

PC-16 -able to provide first aid to adults and children in case of emergencies and life-threatening conditions in case of emergencies and life-threatening conditions, refer patients for hospitalization in a planned and emergency manner;

PC-17 - able to prescribe appropriate treatment for patients in accordance with the diagnosis:

PC-18 -able to provide first aid to adults and children in case of emergencies and life-threatening conditions, direct patients for hospitalization on a planned and emergency basis;

**ER 9 - Is able to conduct rehabilitation activities among adults, adolescents and children through physical training, physiotherapy, and therapeutic factors.**

$$\text{ER9} = \text{PC19} + \text{Pc20} + \text{PC26}$$

PC- 19 - able and capable to implement rehabilitation measures (medical, social and professional) among adults and children for the most common pathological conditions and injuries;

PC- 20 -able to give recommendations for the choice of regime, determine indications and contraindications to the prescription of physical training, physical therapy, non-medicinal therapy, use the main resort factors in the treatment of adults and children;

PC-26 - should know the basic issues of disability (temporary) examinations among the population, and conduct disability prevention among adults and children;

**ER10 - Possesses management skills in the health care system, record documentation, and analysis of statistical data.**

$$\text{POIO} = \text{SPC4} + \text{PC6} + \text{PC23} + \text{PC24}$$

SPC-4 - able to use modern socio-hygienic methods of collecting and medico-statistical analysis of information on the health indicators of the child population:

PC-6 - Able to apply updated information on population health indicators at the level of Therapeutic and Prophylactic Institution(LPI);

PC-23 - able to use the normative documentation adopted in the health care of the Kyrgyz Republic;

PC-24 - able to use knowledge of organizational structure, health care organizations. Referral system;

**ER11 - able to analyze scientific literature and official statistical reviews, participates in the solution of scientific and research issues on the development of new methods and technologies in the field of medicine.**

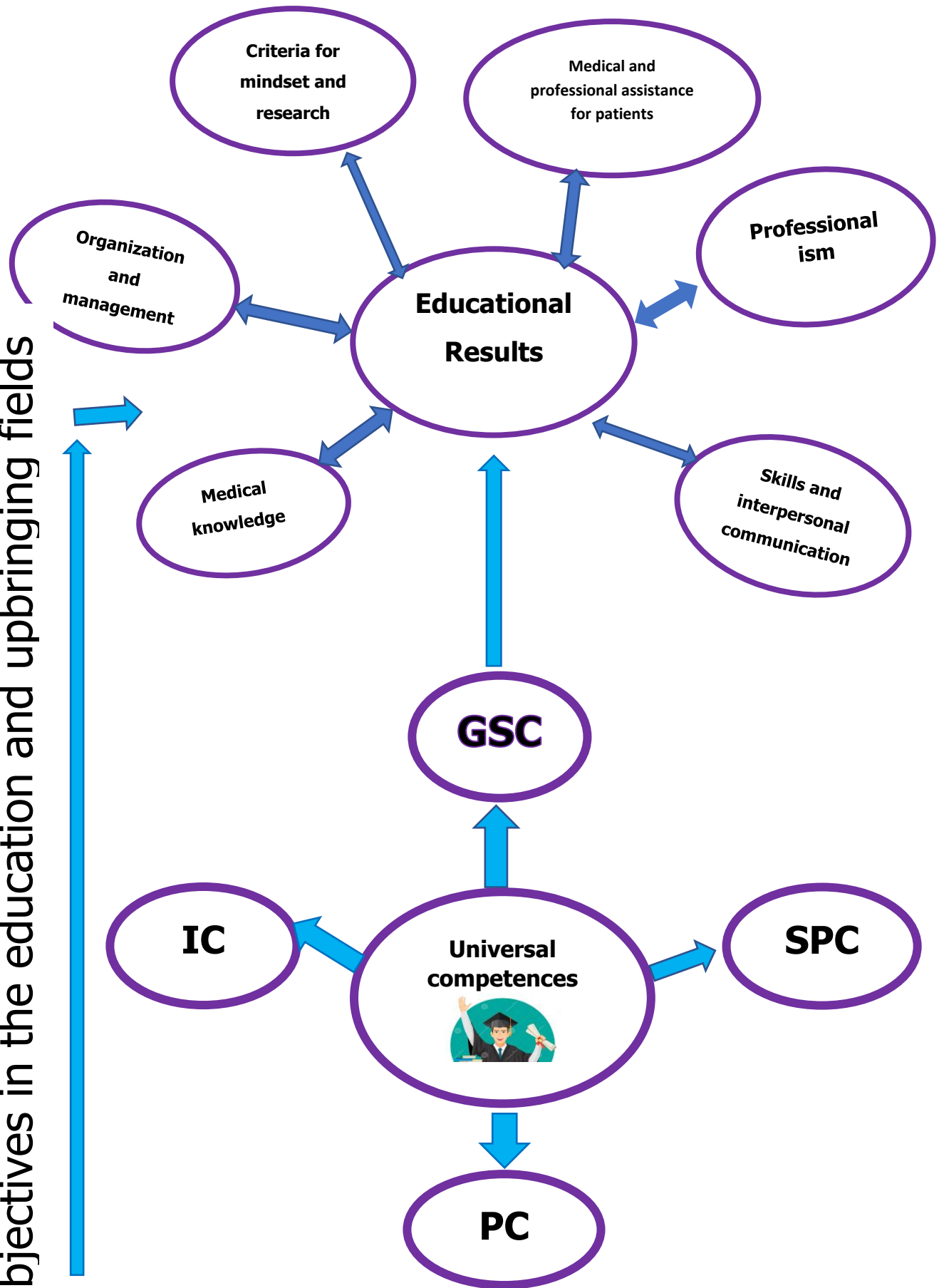
**ER11 = IC4+SPC3+PC27**

IC - 4 - willingness to work with information from a variety of sources;

SPC-3 - able to analyze medical information based on the principles of evidence-based medicine;

PC-27 - ready to study scientific and medical information, native and foreign experience in the field of research.

Objectives in the education and upbringing fields



#### 4.1. Defining objectives for all of the graduate's activities

According to the SES HPE, a graduate must acquire the following types of activities:

- preventive;
- diagnostic;
- therapeutic
- rehabilitation;
- psychological and pedagogical;
- organizational and managerial;
- scientific research.

The objectives that correspond to the listed activities are defined.

Based on objectives:

– are defined:

- the purpose and content of general practice;
- the level of competence, knowledge and skills of the general practice;

– are developed:

- training and thematic improvement programs for general practice;
- criteria for assessing the quality of training of students and doctors in different stages of education;
- standard requirements for certification of general practice;
- standards for examination, treatment, rehabilitation, and monitoring patients;

– are organized:

- educational process;
- professional orientation of applicants to the medical universities;

– is held:

- • graduate certification.

**General objectives** are the competencies that a graduate must obtain (in accordance with the State Educational Standard of Higher Professional Education for the specialty 560001 "General Medicine"). Competences are presented in the form of general and specific.

**Symptoms/Problems** - competencies for evaluating symptoms, complaints, or patient conditions that a doctor may encounter in his/her practice. The graduate should structurally evaluate the patient with a given symptom/problem, and make a differential diagnosis. The graduate should suggest appropriate diagnostic, therapeutic, social and preventive measures and, in the case of life-threatening conditions, provide emergency care.

**The disciplinary objectives** contain competencies where are listed the "clinical conditions" of diseases/pathological conditions that the graduate should be able to diagnose and/or treat, and the "Theoretical Foundations" block, which lists the knowledge that the graduate should possess. The following gradation is given to indicate the level of knowledge (Table No. 1).

### Grade level of knowledge

	<b>Level 1</b>	<b>Level 2</b>
<b>Clinical Conditions</b>	<p>The graduate should be familiar with the clinical situation:</p> <p>The graduate can make a tentative diagnosis of the condition as well if necessary, defining it in general terms without getting into specifics.</p>	<p>The graduate must solve the clinical situation:</p> <p>The graduate can collect the anamnesis in a structural manner, conduct a physical examination.</p> <p>He/she can make a diagnosis on the given condition, conduct an active search for typical complaints and symptoms.</p> <p>He/she can continue appropriate diagnostic and therapeutic measures, considering epidemiological data, laboratory findings.</p> <p>He/she can appropriately explain to the patient the necessary diagnostic, therapeutic and rehabilitative measures.</p>
<b>Theoretical basics</b>	<p><b>Level of general knowledge:</b></p> <p>The graduate can describe the concept or procedure in general terms, including indications and contraindications.</p> <p>He/she knows the relevance and significance of the phenomenon/procedure in the specific clinical situation.</p> <p>He/she has seen the correct performance of the procedure (in a clinical setting, on a simulator, on video or by other technical means)</p>	<p><b>Level of practical application:</b></p> <p>The graduate can use knowledge in interpreting examination results, advising patients on treatment, prevention, and rehabilitation.</p>

**The following designations are used to denote the competency that a graduate must possess in the management of a disease/pathological condition:**

<b>A</b>	The diagnosis of the disease is determined directly by the doctor on the basis of physical examination, simple methods of examination, prescribed and interpreted by the doctor personally.
<b>B</b>	The treatment is administered personally by a doctor, including the usual patterns of treatment for non-complicated cases
<b>C</b>	The doctor is capable to assess the patient's condition and initiate emergency measures. The doctor is not obliged to make a clinical diagnosis, his emergency measures can be based on a reasonable preliminary diagnosis.
<b>D</b>	The doctor knows and is capable of implementing preventive measures

**Diseases/pathological conditions are represented by groups, by discipline:**

- Internal diseases.
- Pediatric diseases, pediatric infectious diseases
- Surgical diseases, pediatric surgical diseases
- Diseases of the female genital organs and the breast
- Infectious diseases
- Tuberculosis
- Diseases of the nervous system
- Mental diseases
- Skin and sexually transmitted diseases
- Ear, throat and nose diseases
- Eye diseases
- Dentistry
- Oncology
- Emergency conditions
- Pharmacotherapy
- Medical Therapy
- Public Health
- Forensic Medicine

**Medical manipulation:** lists manipulations with which the graduate must be familiar and/or to some degree proficient.

The degree of mastery of a skill that a graduate must possess, described using the following gradation of levels:

	<b>Level 1</b>	<b>Level 2</b>
<b>Medical procedures</b>	<p><b>The graduate should have some practical experience.</b></p> <p>The graduate can explain the principle of manipulation, knows the indications and contraindications for manipulation, knows the clinical significance of the procedure in a specific clinical situation, has seen the manipulation</p>	<p><b>The graduate should implement the skill on a regular basis.</b></p> <p>The graduate can explain the principle of the manipulation, has the correct technique to perform the manipulation, and has enough experience to perform the manipulation independently. The manipulation should be practiced on</p>

	performed (on a patient, on a muzzle, on video, or others).	patients of all age categories (except newborns). The graduate is able to interpret the data obtained as a result of the manipulation.
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**All medical procedures are conventionally grouped into the following categories:**

- Interviewing a patient
- Information management
- Physical examination
- General procedures
- Emergency procedures
- Surgical procedures
- Otolaryngological procedures
- Ophthalmic procedures
- Skills and procedures used in obstetrics and pediatrics

**DISCIPLINARY ISSUES (fragment)**

Nosology name	Уровень	A	B	C	D
<b>3.1. Internal diseases</b>					
<i>Clinical conditions</i>					
<b>RESPIRATORY DISEASES</b>					
Acute respiratory infections	2	A	B	C	D
Pneumonia	2	A	B	C	D
Bronchial asthma	2	A	B	C	D
Acute and chronic bronchitis	2	A	B		D
Chronic obstructive pulmonary disease	2	A	B	C	D
Bronchiectatic disease	1	A	B		
Lung emphysema. Pneumosclerosis	2	A	B	C	D
Chronic respiratory failure, pulmonary hypertension, pulmonary heart	2	A	B	C	D
Pneumonic abscess and gangrene	1	A	B		D
Pleurisy, dry and exudative. Pleural empyema					
Pneumothorax, pulmonary atelectasis	2	A	B	C	D
Silicosis. Asbestosis	1	A	B		
Pneumoconiosis	1	A			D
Pulmonary tuberculosis	1	A			D
<b>CIRCULATORY SYSTEM DISEASES</b>	1	A		C	D
Hypertension and systemic hypertension					
Arterial hypotension	2	A	B	C	D
Atherosclerotic disease	2	A	B		
Myocardial infarction	2	A	B	C	D
Stenocardias	2	A	B	C	D
Pericarditis	2	A	B	C	D

Postinfarction cardiosclerosis	2	A			
Atherosclerotic cardiosclerosis	2	A	B	C	D
Congenital and acquired heart defects	2	A	B	C	D
Myocarditis	2	A	B	C	D
Cardiomyopathy	2	A	B	C	D
Infectious endocarditis	2	A	B	C	D
Rhythm and conduction disorders (arrhythmias, blockages)	1	A			D
Congestive heart failure	2	A	B	C	D
Pulmonary embolism	2	A	B	C	D

### MEDICAL PROCEDURES (fragment)

Competence	Level
<b>3.1. Patient interview</b>	
Collection of basic and additional complaints, assessment of the patient's perception of his/her problems	1
assessment of the socio-economic status of the patient, the patient's cultural characteristics	1
Purposeful collection of medical anamnesis ( interviewing about the story of this disease): the beginning of the disease, the time of appearance and the dynamics of symptoms; the ability to build a chronological story from the first symptoms until the moment of treatment to the doctor; the reason for the medical treatment	1
Collection of the life anamnesis (general information about the patient's life)	1
Collection of allergic anamnesis	1
Third-person anamnesis collection	1
Comprehension and responsiveness to nonverbal signs	1
Collection of psychiatric anamnesis	1
Communication and the collection of anamnesis from a patient with a serious illness or a terminal patient	1
Communication and anamnesis collection from a patient with speech defects	1
Collection of family anamnesis (drawing a family tree)	1
Collection of professional anamnesis	1
Identification of harmful risk factors associated with the patient's behavior (smoking, inactive lifestyle, nutritional deficiencies, hygiene habits, etc.)	1
Collecting a drug anamnesis	1
<b>3.2. Management of information</b>	
Formulation of a clinical question and research of its solution in the academic literature	2
Notifying patient and his/her relatives, colleagues and other health care staff about the results of the survey	1
Reporting negative information to a patient and his/her relatives	1
Briefing a patient for informed consent	1
Documentation of the results of the survey in the medical history/ambulatory card of the patient	2

Drafting a discharge and transfer epicrysis	2
Consultation of the patient on issues related to the patient's lifestyle (nutrition, physical activity, smoking, alcohol and drug usage)	2
Filling out a prescription	2
Filling out a document of mortality	1
Designation of the disease by the code according to the current International Classification of diseases	2
Working in accordance with current national protocols/guidelines	2
Contraception consultations, including post-coital contraception	2
A telephone conversation with a patient, assessment of psycho-social, economic, and hygienic conditions	1
<b>3.3. Physical examination</b>	
Assessment of the patient's general condition (appearance, position, nutrition, consciousness, mental health)	2
Assessment of vital body functions (body temperature, respiration rate and type, pulse rate, arterial and venous pressure)	2
Evaluation of patients with emergency cases and injuries	2
Documentation of anthropometric data (height, weight, BMI, head circumference, waist, and hip circumference)	2
Examination of skin and mucous membranes (signs of anemia, cyanosis, jaundice, edema, dehydration)	2
Evaluation of indications and contraindications for surgical intervention	1
Assessment of attention, mentality (form and content), perception, emotional and psychomotor behavior	2
Assessment of decision-making ability of a patient with cognitive impairment	1
Examination (judicial evaluation) of a patient under the influence of alcohol or a psychedelic substance	1

**The expected outcomes include:**

1. <b>Medical Knowledge.</b> Students will achieve an understanding of established and evolving biomedical, clinical, social, behavioral, and populative sciences and demonstrate the ability to identify and evaluate new information with relevance and use these knowledge to solve clinical problems and scientific research.
2. <b>Critical Thinking and Research.</b> Students will be able to evaluate, analyze, and apply knowledge, identify gaps in their own learning, focus on personal growth and lifelong learning, and participate in research to advance knowledge and serve to alleviate human suffering.
3. <b>Medical and preventive treatment for patients.</b> Students will demonstrate the ability to provide evidence-based care to patients, including prevention, diagnostics, and

<p>treatment of disease and health promotion, and teamwork effectively with other health care staff.</p>
<p>4. <b>Professionalism.</b> Students must demonstrate a dedication to the highest standards of professional responsibility, honesty, and accountability; adherence to ethical principles; self-awareness; and moral judgment with respect to patients, colleagues, and the community.</p>
<p>5. <b>Interpersonal and communication skills.</b> Students will demonstrate effective verbal, non-verbal, and written communication skills as well as forming mutually trusting relationships with patients, families, and colleagues.</p>
<p>6. <b>Organizational and social determinants of health care.</b> Students will demonstrate an awareness and ability of a systems approach to diagnostic and health care. Recognizing the social determinants of health and healthcare, they will demonstrate tolerance for diverse populations, whether based on ethnicity, culture, gender, economic status, or sexual orientation.</p>
<p>7. <b>Organization and management.</b> Students will demonstrate an awareness of health systems organization, their role and place at the community level, mechanisms for intersectoral collaboration in strengthening and improving 8. local health</p>

## **Abbreviations and acronyms**

KR – Kyrgyz Republic

GKR – Government of the Kyrgyz Republic

MES – Ministry of Education and Science;

HEI – higher education institution;

SES HPE – State educational standard of higher professional education

EP – educational program;

MEP – main educational program;

GEC – General education courses

BC – basic courses;

MC – major courses;

Curriculum – curriculum;

WC –working curriculum;

YMK – Educational-methodical complex;

MC – methodological council

GSC – general scientific competencies

IC – instrumental competencies

IS – information system

KMB - Competence model of a graduate

PA - professional activity

PC – professional competencies

ER – educational results

SPC – socio-personal and general cultural competencies

AW – academic work

**Agreed:**

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