

MINISTRY OF EDUCATION AND SCIENCE OF THE KYRGYZ REPUBLIC

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

ENDORSED BY

Dean of medical faculty

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Pathophysiology, clinical pathophysiology Course Outline (Module)

Assigned to Department of Pathological physiology

Academic Curriculum 560001 General medicine

Mode of Study **Intramural**
Total Credit Value **9 credit point**

Course Hours
including: 324
in-class learning 198
individual work 108
exams 18

Scope of Testing Semesters:
exams 5
credits 4

Course Hours Scheduling (per semester)						
Semester Academic Year	4 (1.1)		5 (1.2)		Total	
Weeks	18,7		18			
Type of Training	AC	CO	AC	CO	AC	CO
Lectures	18	18	54	54	72	72
Practical Session	54	54	72	72	126	126
Total In-class Session	108	108	90	90	198	198
Individual Work Assessment	72	72	126	126	198	198
Face-to-face Learning			18	18	18	18
Individual Work	63	63	63	63	126	126
Total	90	90	108	108	324	324

1. COURSE OUTLINE OBJECTIVES

The general purpose of teaching pathophysiology, clinical pathophysiology is to form a student's scientific knowledge of the general laws and specific mechanisms of occurrence, development and outcomes of pathological processes, reactions, individual diseases and disease conditions, the principles of their detection, therapy and prevention.

The objectives of this discipline are: teaching students the basic concepts and modern concepts of General nosology; teaching students etiology, pathogenesis, principles of detection, treatment and prevention of the most socially significant diseases and pathological processes, taking into account age characteristics; teaching students the common patterns and mechanisms of emergence, development and outcomes of pathological processes, conditions, reactions, and diseases ;the training of students carrying out pathophysiological analysis of pathological syndrome, pathological processes, forms of individual pathology and disease ;students acquire the knowledge and skills to formulate the principles (algorithms, strategies) and methods of detection, treatment and prevention of pathological processes, conditions, reactions and diseases; acquisition of students' knowledge and skills to analyze scientific literature and official statistical reviews, prepare reviews of scientific literature or abstracts on modern medical scientific problems; acquisition of students' knowledge and skills to carry out statistical analysis and preparation of reports on the study; training of students to comply with the basic requirements of information security; acquisition of students' skills of methodological, methodological and practical bases of clinical thinking and effective professional action of the doctor; acquisition of students' knowledge and skills to solve individual research and scientific-applied tasks in the field of health research on etiology and pathogenesis, diagnosis, treatment, rehabilitation and prevention of human diseases.

2. PLACE OF THE COURSE IN THE EDUCATIONAL PROGRAM

Educational Program Units:

2.1 Students' Preliminary Training Requirements:

2.1.1	"Philosophy" of Knowledge: methods and techniques of philosophical analysis of problems; forms and methods of scientific knowledge, their evolution. Skills: competently and independently analyze and assess the social situation in the Kyrgyz Republic, Russia and abroad and carry out their activities taking into account the results of this analysis. Skills: presenting an independent point of view, analysis and logical thinking, public speaking, ethical reasoning, debate and round tables.
2.1.2	"Physics, mathematics" Knowledge: mathematical methods for solving intellectual problems and their application in medicine; the main physical phenomena and laws underlying the processes occurring in the human body; characteristics of the impact of physical factors on the body; physical foundations of medical equipment. Skills: use of physical equipment. Skills: knowledge of methods of mathematical, statistical analysis of biomedical data of patients.
2.1.3	Biology of Knowledge: the General laws of the origin and development of life; of anthropogenesis and ontogenesis of a person; the laws of genetics, its importance for medicine; the laws of heredity and variation in individual development as the basis for the understanding of the pathogenesis and etiology of hereditary and multifactorial diseases.
2.1.4	Skills: use of biomedical laboratory equipment. Skills: proficiency in methods of studying inheritance in humans (cytogenetic method, genealogical method, twin method).
2.1.5	"Biochemistry" Knowledge: the chemical and biological essence of the processes occurring in the living organism at the molecular and cellular levels; the structure and biochemical properties of the main classes of biologically important compounds, the main metabolic pathways of their transformation; the role of cell membranes and their transport systems in metabolism in the body. Skills: interpret the results of the most common methods of laboratory diagnostics to identify pathological processes in organs. Skills: knowledge of the concept of limitation in the authenticity and specificity of the most common laboratory tests; preliminary diagnosis based on the results of biochemical studies of human biological fluids.
2.1.6	"Human Anatomy" Knowledge: anatomical-physiological, age-sexual and individual characteristics of the structure and development of a healthy and sick organism. Skills: to palpate on the person the main bone landmarks, to outline the topographic contours of the organs and the main vascular and nerve trunks. Skills: proficiency in medical and anatomical conceptual apparatus.
2.1.7	"Histology, embryology, Cytology" Knowledge: basic regularities of development and functioning of the body on the basis of the structural organization of cells, tissues and organs; histogenetically characteristics of fabric elements; methods of research.

2.1.8	Abilities: to work with magnifying equipment (microscopes, optical and simple magnifiers); to analyze histophysiological structure of cells, tissues and organs. Skills: microscopy and analysis of histological preparations and electronic microphotography.
2.1.9	"Pathological anatomy" Knowledge: basic laws of development of diseases on the basis of changes in the structural organization of cells, tissues and organs; histogenetically features of the tissue elements at a pathology ; methods of research. Skills: to work with magnifying equipment (microscopes, optical and simple magnifiers); to analyze histopathological assessment of various cellular, tissue and organ structures in pathology .Skills: microscopy and analysis of histological preparations and electronic microphotography.
2.1.10	"Normal physiology" Knowledge: functional systems , their regulation and self-regulation when exposed to the environment in the normal. Skills: interpret the results of the most common methods of functional diagnostics, thermometry to detect pathological processes in organs and systems.
2.1.11	Skills: ability to plan and conduct a physiological experiment, analyze the results.
2.1.12	"Microbiology, Virology" Knowledge: classification, morphology and physiology of microorganisms and viruses, their impact on health, methods of microbiological diagnostics; safety regulations and work in biological laboratories, reagents, devices, animals. Skills: to carry out statistical processing of experimental data. Skills: use information on the principles of sterilization, disinfection and antiseptic treatment of instruments and equipment to avoid infection of the doctor and the patient.
2.1.13	"Immunology" Knowledge: structures and functions of the immune system , its mechanisms of development and functioning, basic methods of immunodiagnostics, methods for assessing the immune status and indications for immunotropic therapy. Skills: to justify the need for clinical and immunological examination of a sick person. Skills: preliminary diagnosis based on the results of laboratory and instrumental examination.
2.2	Course Units and Practical Sessions imposing the prior Proficiency
2.2.1	Therapy, surgery, obstetrics and gynecology, as well as all other specialties related to the diagnosis and treatment of patients.

3. STUDENTS' COMPETENCIES RESULTING FROM THE COURSE UNIT (MODULE)

PC-5: Able to define main pathological states in a patient, symptoms and syndromes of diseases, clinical entities in accordance with International statistical classification of Diseases and Related Health problems of the X review	
Knowledge:	
Level 1	procedures of identifying main pathological states in a patient, symptoms and syndromes of diseases, clinical entities
Level 2	specific features of identifying various types of pathological states, diseases symptoms and syndromes, clinical entities in accordance with ISCD of the X review.
Level 3	basic syndromes of organ and system abnormalities and their features in differential exclusions of various nosological entities in compliance with ISCD of the X review.
Skills:	
Level 1	comprehend the obtained results of investigating the main clinical entities of diseases;
Level 2	analyze various types of pathological states, diseases symptoms and syndromes, clinical entities in accordance with ISCD of the X review.
Level 3	indicate practical utility when comparing specific abnormal diseases' syndromes and symptoms
Expertise:	
Level 1	experience in identifying main pathological states in a patient, symptoms and syndromes of diseases;
Level 2	methods of searching, identifying and classifying the main pathological states, diseases' syndromes and symptoms clinical entities in accordance with the ISCD of the X review
Level 3	experience in independent reasoning of aggregating various symptoms and syndromes into clinical entities in accordance with ISCD of the X review

Final Students' Competences

3.1	Knowledge:
3.1.1	basic concepts of general nosology;
3.1.2	the role of causes, conditions, reactivity of the body in the occurrence, development and completion (outcome) of diseases;
3.1.3	causes and mechanisms of typical pathological processes, States and reactions, their manifestations and significance for the body in the development of various diseases;
3.1.4	causes, mechanisms and main manifestations of typical disorders of organs and physiological systems of the body;
3.1.5	etiology, pathogenesis, manifestations and outcomes of the most frequent forms of pathology of organs and physiological systems, principles of etiological and pathogenetic therapy;