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METHODICAL INSTRUCTIONS FOR ORGANIZING INDEPENDENT WORK OF
STUDENTS IN THE DISCIPLINE "PHYSIOLOGY OF VISCERAL SYSTEM"
FOR SPECIALTY 05.31.01 General Medicine

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The manual was prepared in accordance with the requirements of the work program and contains guidelines on the main sections of the discipline "Normal Physiology" in English in accordance with the current curriculum. The manual is intended for independent work of students of the medical faculty.

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Introduction

The discipline "Normal Physiology" refers to the basic part of the general professional program B1.B.55 of the structure of the program of specialty. For its successful development requires knowledge of physics, chemistry, biology, histology, cytology, human anatomy, biochemistry. "Normal physiology" forms a knowledge base for the subsequent study of pathological physiology, pharmacology and disciplines of the professional cycle.

- **The purpose of the Course**

- to form students' systematic knowledge about holistic living organism and its parts, the basic laws of functioning and mechanisms of their regulation of the interaction between each other and with environmental factors, on the physiological basis of clinical and physiological methods of research used in functional diagnosis and the study integrative human activity.

Objectives:

- the formation of students ' systematic approach to understanding the physiological mechanisms underlying interaction with environmental factors and implementation of adaptive strategies of the human body, the implementation of the normal functions of the human body from the standpoint of the theory of functional systems;
- the study of the methods and principles of the research assessment of the state regulatory and homeostatic systems of the organism in the experiment, taking into account their applicability in clinical practice;
- teaching students methods of evaluation of human functional state, state regulators and homeostatic in different types of purposeful activity;

- formation bases of clinical thinking based on the analysis of the nature and structure interorganic and intersystem relations from the position of integrated physiology for future practical activities of the doctor.

Expected Results (Competencies)

Code and name implemented competence	The list of planned learning outcomes in the discipline (module), correlated with indicators of achievement of competences
GPC-9	<p>Know:</p> <ul style="list-style-type: none"> • physical and chemical essence of processes occurring in a living organism at the molecular, cellular and organ levels; • quantitative and qualitative indicators of the state of the internal environment of the organism, the mechanisms of its regulation and protection; • the role of biogenic elements and their compounds in living organisms, using their compounds in medical practice; • basic chemistry of hemoglobin, its part in the gas exchange and the maintenance of acid-base balance; • the structure of the functional systems of the organism, its main physiological functions and mechanisms of regulation. <p>be able to:</p> <ul style="list-style-type: none"> • use educational, scientific literature, electronic resources for the studying of the discipline; • use physical, chemical and biological equipment; • work with magnifying equipment (microscopes, optical and simple loops); • perform calculations on the results of the experiment, conduct elementary processing of experimental data; • identify and evaluate the results of electrocardiography; spirometry; thermometry; hematological parameters

Independent work is made up of preparing for classes on questions for each lesson and preparation for intermediate control on questions for offset and examination. The following educational technologies are used in the organization of independent work of classes: Auditorium independent work on the discipline is performed on practical exercises under the direct guidance of the teacher and on his instructions. The workshop on normal physiology contains various experimental tasks in accordance with all the main sections of the theoretical course and is independently carried out in the laboratory of the Department of Physiology, equipped with laboratory equipment. As part of the course, students solve virtual problems - this is a simulator for independent work. Outside classroom independent work is performed by the student on the instructions of the teacher, but without his direct participation. The main types of independent work of students without the participation of teachers are: the formation and assimilation of the content of lecture notes on the

basis of textbooks recommended by the lecturer, including information educational resources (electronic textbooks, electronic libraries, etc.); preparation for practical work, their design.

When organizing the independent work of classes, the following educational technologies are used.

Extracurricular independent work is performed by the student on the instructions of the teacher, but without his direct participation. The main types of independent work of students without the participation of teachers are:

1. the formation and assimilation of the content of the recommended educational literature, including educational information resources (electronic textbooks, electronic libraries, etc.)
2. preparation for practical exercises, their design.

Sections, topics, questions for independent work of students

No	No of semester	The name of the section of the discipline (module)	Types of students' independent work	Form of control
1	2	3	4	5
1	4	Regulation of physiological functions	Preparation for classes. Preparation for the current control.	Oral survey
2		Homeostasis. The internal environment of the body.	Preparation for classes. Preparation for the current control.	Oral survey
		Functional systems for maintaining homeostasis	Preparation for classes. Preparation for the current control.	Oral survey

Independent study of topics and sections	Current knowledge control form
Morphofunctional characteristic of lymph circulation in maintaining the body	Questions in the final classes, credit. Job interview
External manifestations of cardiac activity (electrical, nervous, mechanical, their origin) phonocardiography, -balistocardiography, -vector cardiography -echocardiography.	Questions in the final classes, credit. Job interview

The speed of lymph movement in various parts of the lymphatic system.	Questions in the final classes, credit. Job interview
The organs are the blood depot. Changes in organ circulation during muscle load, food intake, pregnancy, hypoxia, stress and other conditions.	Questions in the final classes, credit. Job interview
Ventilation of the lungs, its unevenness in various parts of the organs.	Questions in the final classes, credit. Job interview
Blood oxygen capacity. Oxygen utilization rate under different conditions.	Questions in the final classes, credit. Job interview
The importance of microflora and gas in the intestines.	Questions in the final classes, credit. Job interview
Parahormonal regulation of functions.	Questions in the final classes, credit. Job interview

Form of knowledge control on the independent study of the subject: a colloquium, credit and exam.

Literature

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