

PHYSIOLOGY OF HUMAN

Human Physiology

The subject of the study of the discipline is the study of the functions of various organs and systems of the human body.

Be able to: explain the connection between the structure and functions of the organs of the human body; To investigate the state of physiological systems of the own organism; to work out the scientific literature on human anatomy. to substantiate the harmful influence on the body of alcohol, drugs, smoking; apply knowledge to: lead a healthy lifestyle; prevention of diseases of physiological systems; observance of the regime of work and rest.

The curriculum program consists of the following content modules:

1. Nerve regulation of the body.
2. Physiology of muscles and muscular activity.
3. Physiology of the cardio-respiratory system.
4. Physiology of metabolism and energy.

1. Purpose and objectives of the discipline

1.1. The purpose of teaching the discipline "Human Physiology" is: on the basis obtained knowledge about anatomy of a person about the structure of a human body, to study the function of differentce. Organs and systems in general in order to use the acquired knowledge in the study of the following medical and biological disciplines, organization of a healthy lifestyle, and in practical physical culture and sports activities.

1.2. The main tasks of studying the discipline "Human Physiology" are:

a) methodical:

- to help students improve knowledge of human physiology;
- to acquaint with scientific sources, which you can apply for permanent professional development;
- to teach students to apply physiological research methods to study other sciences and in practice;

b) cognitive:

- to study the basis of knowledge on the biological nature of man and his functional

opportunities;

- to create a knowledge base on physiology for studying biological disciplines

profile for senior courses;

- to reveal the physiological regularities and mechanisms of interaction between organs and their systems as in conditions of relative muscular rest, and at muscular activity.

- to expand the concept of the role of studying human physiology for perfection

Achievements in sport and physical culture of modern society;

c) practical:

- to deepen the biological and methodical training of future specialists;

- prepare students for scientifically grounded physical exercise

Culture taking into account morphological features of the structure of the body;

- To form students with practical skills in determining and evaluating functional the features of the organism and the physical development of the child for the morpho-functional signs

- To form students knowledge, skills and abilities to preserve and improve own health and health of the younger generation;

- to develop the students' ability to practice the acquired acquired theoretical knowledge

Regarding the dosage of physical activity, the development of training and recreational programs

occupies for the effective decision of educational, educational and recreational tasks, which

provided by the program for secondary schools;

- prepare students for studying other disciplines of the biological cycle and professional orientation.

1.3. According to the requirements of the educational-professional program students must:

know:

- principles of working with sources of knowledge: study literature, special

scientific literature, reference books, press;

- Fundamentals of scientific research in physiology;
- peculiarities of the structural and functional organization of the organism;
- structure and function of neurons, synapses and nerve centers;
- physiology of separate divisions of the nervous system;
- functional characteristic of analyzers;
- physiology of muscles and muscular activity;
- features of hormonal regulation of body functions;
- peculiarities of metabolism and energy;
- physiological features of the blood and blood circulation system;
- functional features and capabilities of the respiratory system of the human body;
- the role of the nervous system in ensuring the integrity of the human body;
- the importance of sensory organs in the processes of maintaining the vital functions of the organism.

Be able to:

- effectively apply theoretical professional knowledge in practical activity;
- to form students in the scientific worldview, to take care of systemic and ecological culture pupils;
- organize group work and individual work with pupils who are inclined to physical culture;
- Instill students' skills in independent physical education classes for the purpose improvement of physical capacity and health;
- to possess methods of determination of bioelectric phenomena in excitatory tissues;
- to record a human electrocardiogram;
- graphically model the structure of the neuron and its plasma membrane in a state

Rest and excitement;

- to determine the time of a reflex reaction in a person on the action of various stimuli;
- to determine the acuity of vision;
- determine the volume of short-term auditory memory;

- to study the rumor in the language;
- to investigate tactile, temperature and pain sensitivity;
- to analyze functions of muscle spindles of the quadriceps on the basis of thigh
Knee reflex;
- determine the accuracy of the functioning of the motor analyzer and its interaction
with the visual
analyzer;
- to analyze the interaction of myosin threads sarcomere on the basis of change in
voltage
Muscles;
- determine the maximum anaerobic power of the organism.

125 hours / 3,5 credits of ECTS are allocated for the study of the discipline.

2. Information volume of educational discipline

Module 1

Semantic module 1. Nerve regulation of the organism.

Theme 1. Introduction to physiology.

Subject and Tasks of Physiology as a Educational and Scientific Discipline, its place in the system biological sciences, the importance of knowledge in physiology for specialists in physical education and Sports.

1.2. The main tasks of studying the discipline "Human Physiology" are:

a) methodical:

- to help students improve knowledge of human physiology;
- To acquaint with scientific sources, which you can apply for permanent
professional development;
- To teach students to apply physiological research methods to study
other sciences and in practice;

b) cognitive:

- to study the basis of knowledge on the biological nature of man and his functional
opportunities;

- to create a knowledge base on physiology for studying biological disciplines
profile for senior courses;

- to reveal the physiological regularities and mechanisms of interaction between
organs and their systems as

in conditions of relative muscular rest, and at muscular activity.

- to expand the concept of the role of studying human physiology for perfection
Achievements in sport and physical culture of modern society;

c) practical:

- to deepen the biological and methodical training of future specialists;

- prepare students for scientifically grounded physical exercise

130 hours / 10 credits of ECTS are allocated for the study of the discipline.