

MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN
FEDERATION

Federal State Autonomous Educational Institution of Higher Education
NORTH-CAUCASUS FEDERAL UNIVERSITY

Methodological Guidelines for Practical Work in
ELECTIVE DISCIPLINES (MODULES) IN PHYSICAL CULTURE AND SPORTS
for students majoring all fields of training and specialties

INTRODUCTION

The methodological recommendations for arranging the practical sessions in Elective Disciplines (Modules) in Physical Culture and Sports have been developed following the requirements of the Federal State Educational Standard of Higher Education.

Successfully solving general and special tasks in the field of physical culture – such as strengthening health, increasing the level of general working capacity, and developing basic physical qualities (namely, those indicators directly related to the level of dynamic health) – is extremely important in institutions of higher education. This is because the official physical culture training program, which is mandatory for all students, functions at the university level only. It is precisely within the university that a fundamental health base is set for many years to come, as there are no mandatory physical culture classes after graduation from an educational institution.

Lacking or restricted physical activity contributes to the development and acute progression of diseases like hypertension, atherosclerosis, myocardial infarction, vegetative-vascular dystonia, obesity, and a variety of other medical conditions.

The integrative target objective across all levels of education for Elective Disciplines (Modules) in Physical Culture and Sports is shaping a personal physical culture.

A student's qualitative state within this culture is determined, first and foremost, by the possession of specialized knowledge and intellectual abilities (education). This creates a foundational basis for motivational-value orientations, competency, creativity, conscious activity, and a stable social-spiritual stance regarding a healthy lifestyle and its significance in future professional activities. The orientation of physical culture as a subject is determined not by specific tasks alone yet also by the requirements imposed by the future specialty.

Occupying a considerably large volume of academic time in specialist training, this discipline is intended to perform diverse educational, instructional, personal, creative development, health-improving, and social functions. It serves to constitute an organic part of the entire educational-instructional process, maintain high intellectual and psychophysical working capacity among students throughout their entire period of university study, shape motivational-value orientations and spiritual-moral qualities, ensure physical perfection, and engage young people in various forms of physical culture and sports activities, self-education, and physical self-perfection.

The purpose of mastering Elective Disciplines (Modules) in Physical Culture and Sports is the formation of the universal competency UC-7, which is aimed at building the capacity to maintain an appropriate level of physical fitness to ensure full-fledged social and professional activities.

The place of the discipline in the structure of the educational program: The discipline belongs to the part formed by the participants of educational relations.

As a result of mastering the discipline, the student is to master the following competencies

Code and definition of the competency	Code and definition of the achievement indicator (AI)	Planned learning outcomes for the discipline (module) describing the stages of competency and indicator development
UC-7 Capable of maintaining an appropriate level of physical fitness to ensure full social and professional activity	AI-1 UC-7 selects health-saving technologies for full-scale social and professional activity in view of the physiological specifics of the body and the living conditions	Reveals the knowledge of health-saving technologies for full-scale social and professional activity
	AI-2 UC-7. Plans their working and free time for an optimal combination of physical and mental workload and ensuring work capacity in professional activity	Rationally combines physical and mental workload to ensure work capacity in professional activity
	AI-3 UC-7. Maintains a proper level of physical fitness to ensure full-fledged social and professional activity and adheres to the norms of a healthy lifestyle	Possesses skills in using the means and methods of basic types of physical culture, sports, and health-improving activities to maintain a proper level of physical fitness to ensure full-fledged social and professional activity

MASTERING THE TECHNIQUE OF MOTOR ACTIONS IN BASIC TYPES OF PHYSICAL CULTURE, SPORTS, AND HEALTH-IMPROVING ACTIVITIES

Practical Session 1. Fundamentals of the technique of the chosen type of physical culture and sports activity

Introductory session. Safety instructions.

Aim: to introduce students into the safety rules during athletic gymnastics sessions. Special safety requirements. Safety requirements in emergency situations. Causes of injuries during athletic gymnastics sessions. Injury prevention measures. Fundamentals of general developmental exercises (GDE) in athletic gymnastics. To shape an understanding of the human muscular system and the main muscle groups that determine body definition and strength development.

Planned learning outcomes:

- Demonstrates knowledge of health-saving technologies and physiological specifics of the body to ensure full-fledged social and professional activities.
- Combines rationally physical and mental stress to ensure working capacity in professional activities.
- Maintains an appropriate level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

Safety in athletic gymnastics sessions. Special safety requirements. Safety requirements in emergency situations. Causes of injuries during athletic gymnastics sessions. Injury prevention measures.

Anatomical foundations of knowledge: human physique. The human muscular system. Main muscle groups that determine body definition. Main muscles and their functions (shoulder girdle). The deltoid muscles are large, three-headed, triangular muscles that surround the shoulder joint. Their main functions are shoulder abduction, pronation, and supination. The trapezoid muscle is located directly beneath the skin on the posterior surface of the torso and neck. Its main function is to elevate the entire shoulder girdle, pull the scapulae upward, downward, and to both sides, and assist in turning the head. Young women are not recommended to overemphasize the development of this muscle. The neckline should be thin and slender. However, if the neck is too thin and long while the shoulders are sloping, it is necessary to increase the training of the trapezoid muscles. The biceps brachii muscle is located on the anterior surface of the humerus. It has two heads – a long head and a short head (biceps). The biceps muscle participates in the flexion of the shoulder and forearm, as well as the supination of the forearm. Accordingly, exercises aimed at developing this muscle are associated with flexing the arms in front of oneself. The triceps brachii

muscle has three heads – the long, lateral, and medial heads (triceps). It is located on the posterior surface of the humerus, directly beneath the skin. The triceps muscle participates in the extension of the forearm. Training this muscle in young women helps prevent excessive body fat accumulation in this part of the body.

Practical Sessions 2, 3

Diagnostics of physical fitness

Aim: To examine the structure, content, and arrangement of athletic gymnastics sessions. To study the main goals, objectives, and methods of athletic gymnastics. Testing the baseline level of physical fitness. Rules for compiling a training exercise complex. To examine the history, current status, and development prospects of athletic gymnastics in Russia.

Knowledge and skills acquired by the student as a result of mastering the topic, and the competencies or their parts being shaped.

Planned learning outcomes for the discipline (module), characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental stress to ensure working capacity in professional activities.
- Maintains an appropriate level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

The structure, content, and arrangement of athletic gymnastics sessions. Main goals, objectives, and methods of athletic gymnastics. Testing the baseline level of physical fitness. Rules for compiling a training exercise complex.

Athletic gymnastics, as Honored Scientist Professor I. M. Sarkizov-Serazini noted, is one of the most effective means that comprehensively affects the human body. The abundance of exercises and the ability to finely dose loads make this important means of health improvement accessible to people of all ages. Moreover, the aesthetic side of athletic gymnastics brings it closer to true art. It is the pursuit of bodily beauty that distinguishes athleticism from a range of other types of physical culture. From the perspective of the theory and methodology of physical education, athletic gymnastics is a type of physical exercise aimed at developing the body's strength capacities, improving health, and body correction. The roots of athleticism must, of course, be sought in Ancient Greece, but it was precisely in Russia that the direction finally took

shape which subsequently yielded fruitful branches: kettlebell lifting, weightlifting, and, ultimately, athletic gymnastics. In 1885, Doctor V. F. Kraevsky founded an athletics amateur club in St. Petersburg. The club's program included the pursuit of physical development, health, and cold-exposure training of the body; furthermore, the athletes of those years also addressed aesthetic tasks, attempting to reach Ancient Greek models of physique in their development. After the revolution of 1917, the ideals of athleticism gradually faded into the background, and other types of power sports underwent development. It was only in 1981 that the Directorate of Combat Sports recommended a broader expansion of work in the field of kettlebell lifting and athletic gymnastics, the creation of commissions for athletic gymnastics and kettlebell lifting under the Weightlifting Federations, and the development of their work plans, providing for the organization of clubs, sections, and groups at local residential areas. In its modern variation, athletic gymnastics transcends the boundaries of the concept of a sport. It represents an attitude toward physical culture as an obligation to preserve and multiply that fund of health and physical qualities with which nature endows a human being over millions of years of evolution. Experience shows that practitioners can develop great strength (the ability to overcome external resistance through muscular contractions), achieve a high level of endurance (the ability to perform physical work without the onset of fatigue), and eliminate or sharply reduce the harmful effects of so-called risk factors on the body.

A person practicing athleticism receives a sufficient physical load, specifically in an optimal combination of strength and endurance exercises; by improving blood circulation as a whole and the blood supply to the brain in particular, the sessions expand the opportunities for productive mental labor; the athlete frees themselves from excess fat deposits through the exercise regimen and sensible nutrition; a low-fat diet reduces cholesterol deposition on the vessel walls; systematic exercise and an emphasis on calcium-rich dairy products in the diet help prevent osteoporosis (bone thinning), which affects nearly half of older women and one in eight elderly men; strength loads strengthen the nervous system and reduce emotional overloads; and finally, there is no place for harmful habits in an athlete's regimen, since smoking and alcohol, upon entering the body, preclude the possibility of achieving the set goals.

Practical Sessions 4–10

Learning exercise complexes. Discussion. History, current state, and development prospects of the chosen type of physical culture and sports activity.

Aim: To master the technique of performing basic barbell exercises used for strength training. To study the technique of Squats. Barbell back squats. Half-squats. Reviewing typical

exercise complexes. To shape an understanding of athlete nutrition and safety regulations during athletic gymnastics sessions.

Knowledge and skills acquired by the student as a result of mastering the topic, and the competencies or their parts being shaped.

Planned learning outcomes for the discipline (module), characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental stress to ensure working capacity in professional activities.
- Maintains an appropriate level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

The main methodological directions of strength education are based on the physiological laws of physical education. An increase in strength occurs when the session process creates maximum muscular tension, which can be achieved in the following ways: 1) overcoming non-maximal loads (resistances) with a maximal number of repetitions; 2) a maximal increase in external resistance (in a dynamic or static mode); 3) overcoming resistances at a maximal speed.

The magnitude of the load in strength education is usually dosed according to the following criteria: as a percentage of the maximum weight; by the difference from the maximum weight (for example, 10–15 kilograms less than the limit weight); by the number of possible repetitions of the exercise in one set. In the first methodological variant, using non-maximal loads with a maximal number of repetitions, maximum muscular tension is achieved during the final repetitions, when working to failure against a background of pronounced fatigue. From an energetic standpoint, such work is disadvantageous, but it possesses a number of significant advantages if the sessions aim to develop strength endurance or are conducted primarily with a health-improving focus. Exercises with non-maximal loads provide greater opportunities to control movement technique. This is of particular importance for beginners.

Furthermore, in individuals who have not previously performed strength-enhancing exercises, restricting the loads makes it possible to avoid injuries. It is also important that initially, the effectiveness of strength education is almost independent of the magnitude of resistance. However, as the number of sessions increases, the advantage of maximal loads becomes obvious. In the training of qualified athletes, methods based on repeatedly performed non-maximal loads are used in strength education primarily as supplementary tools. The second methodological

variant – the use of maximal and near-maximal loads – is the primary method in the training of qualified athletes.

A session with maximum weight causes significant emotional fatigue and is associated with insufficient load volumes. Therefore, training sessions are conducted mainly with near-maximal weights, which are overcome without significant emotional arousal (the weight is 10–15 percent less than the maximum). It is desirable to use a weight greater than the training limit once every 7–14 days. Isometric (static) exercises can be considered a peculiar variant of applying maximal strength tensions. They are used as an additional means in the process of educating strength capacities. The effectiveness of these exercises is less than that of dynamic ones, and it is recommended to perform them in the form of maximal repetitions of exercises within 5–10 seconds each. When performing strength exercises, several basic rules should be observed: 1) allowing tension of the expiratory musculature with a closed glottis, which increases strength indicators, is permissible only when necessary, that is, during short-term maximal tensions.

Do not hold the breath when the condition does not require it (for example, during repeated execution of exercises with low tensions); 2) beginners must not be given a large volume of exercises with maximal and near-maximal tensions (weights); 3) a maximal inhalation should not be taken before performing strength exercises, as this will needlessly increase intrathoracic pressure and exacerbate the unfavorable shifts observed during straining; 4) since almost the same strength indicators are achieved during exhalation with a narrowed glottis as during straining, a maximal effort can be made on exhalation without holding the breath, but through somewhat compressed lips; 5) beginners should execute inhalation and exhalation in the middle of the exercise, specifically at the moment when the barbell is on the chest; 6) considering that shock states occur only during a slow press, it is necessary to achieve a rapid lifting of even a maximal weight; 7) for every movement, there are body positions in which the greatest and least magnitudes of strength are manifested. During flexion at the elbow joint, maximum strength is achieved at an angle of 90 degrees; during extension at the elbow and knee joints, the optimal angle is about 120 degrees; and when measuring deadlift strength, it is 155 degrees. In the system of training sessions for strength education, it is necessary to use a combination of exercises of general and relatively local action.

There are over 500 muscles in the human body. The following five groups are considered the most important ones that significantly affect a person's general strength: 1) extensors of the spinal column; 2) flexors of the spinal column and muscles of the hip joint area; 3) extensors of the legs; 4) flexors of the legs; 5) the pectoralis major muscle. It is desirable to apply strength exercises at the beginning of the main part of the session against the background of a fresh, optimal state of the body. When using significant loads (50 percent of the maximum and higher), the rest

intervals between repetitions consist mainly of 2–3 minutes; for near-maximal loads, 4–6 minutes; and for maximal loads, 10–15 minutes. Before approaching the main training weight, several approaches to small weights are performed. Such preliminary work with weights pursues the objectives of a warm-up. In cases where the sessions include exercises with both near-maximal weights and non-maximal weights performed to failure, the former should be executed first.

Safety in Athletic Gymnastics Sessions:

1. At the beginning of each workout, perform a general and specific warm-up, preparing the muscles for high loads.
2. Do not get distracted while performing strength exercises.
3. Before lifting heavy weights, study the technique of correct execution of the movement in the given exercise.
4. Apply the correct movement technique. Avoid straining in breathing.
5. Finish strength exercises with a straight back in order to prevent spinal injury.
6. In the initial period of strength training, increase the loads on the wrist, elbow, ankle, and knee joints slowly and gradually.
7. Exclude from training those exercises during the execution of which pain arises.
8. Observe the rules of personal hygiene to prevent skin damage on the palms.
9. After a workout, perform a variety of measures for rapid recovery.
10. Ensure that strength-training equipment is in good working order, and follow order and safety rules in the strength training hall.

Practical Sessions 11–16

Learning exercise complexes.

Discussion. The importance of sessions in the chosen type of physical culture and sports activity for maintaining health and developing physical qualities.

Aim: To study the technique of executing basic barbell exercises used for strength training.

Pulls: Barbell stiff-legged deadlift. Barbell deadlift standing on a platform. Typical exercise complexes. To shape an understanding of the methodological directions for developing strength capacities (complex training).

Knowledge and skills acquired by the student as a result of mastering the topic, and the competencies or their parts being shaped.

Planned learning outcomes for the discipline (module), characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental stress to ensure working capacity in professional activities.
- Maintains an appropriate level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

Nutrition is a complex process involving the intake, digestion, absorption, and assimilation within the body of nutrients that are necessary to cover its energy expenditures, build and restore body cells and tissues, and regulate the body. Rational nutrition combined with weight exercises can create or restore an optimal physique. Proteins play the primary role in building (plasticity of) the body.

Dietary protein is a highly complex organic compound that includes about 20 amino acids, 8 of which cannot be formed in the human body and must mandatory be supplied with food. Only in the presence of all required amino acids can the structural elements of muscles – myofibrils – thicken, thereby increasing muscle strength. Only protein containing essential amino acids performs structural functions, whereas incomplete protein is either excreted from the body or converted into fat. Therefore, athletes who do not pay attention to their diet cannot count on full success in achieving their set goals. Fats (lipids) are suppliers of energy (calories) in the body and are essential components of nutrition. However, excessive consumption of fats contributes to the development of atherosclerosis and obesity, while a prolonged restriction of the amount of fats in food results in changes in the physiological state of the body: the activity of the central nervous system is disrupted, immunity is weakened, meaning resistance to infections decreases, etc.

Lipids possess high caloric value: 1 gram yields 9 kilocalories, which is more than twice the caloric value of proteins and carbohydrates. In the composition of food products, a distinction is made between so-called invisible fats (in meat, fish, milk) and visible fats – specially added vegetable oils and animal fats. The source of vegetable fats is primarily vegetable oils (99.9% fat), nuts (53–65%), oatmeal (6.9%), and buckwheat (3.3%) groats. The source of animal fats includes pork lard (90–92% fat), butter (72–82%), sausage (20–40%), sour cream (30%), and cheeses (15–30%). Carbohydrates are important energetic components of food. From the standpoint of digestibility in the human body, carbohydrates are conventionally divided into two groups – those digestible in the digestive tract and those indigestible. Digestible carbohydrates include glucose, fructose, sucrose, maltose, starch, etc. Indigestible carbohydrates include cellulose, pectin substances, and dextrans.

Digestible carbohydrates, which are the main suppliers of energy, are to be found in fresh vegetables, potatoes, rice, and fruits. An athlete under moderate physical loads should consume 60–70 grams of simple carbohydrates per day.

During intense athletic training sessions, the carbohydrate stores work at full capacity; therefore, between daily workouts, it is recommended to additionally consume carbohydrates without special restrictions, but only in natural form – fruits, vegetables, and juices. The content of food components in the diet, when converted per 1 kilogram of body weight, should correspond to the following data: proteins – 2.4–2.5 grams; fats – 2.0–2.3 grams; carbohydrates – 10.0–11.0 grams. The food we consume can be broken down into the following groups: 1. Meat, fish, eggs. 2. Dairy products. 3. Cereal products (groats, porridges, bread). 4. Vegetables and fruits. Each of them contains proteins, fats, and carbohydrates in different proportions.

Vitamins must mandatory be contained in food. Their deficiency or total absence leads to severe consequences. Vitamins cannot be synthesized in the body from other substances. Usually, the body's requirements for vitamins are met through a full-fledged diet (with the exception of early spring, when the prophylactic intake of multivitamin dragees is recommended). During intense physical loads, accelerated breakdown and excretion of vitamins from the body take place. The requirement for them increases.

Therefore, athletes, especially during periods of developing loads, require the intake of vitamin preparations. It is better to take multivitamins: Aerovit, Complivit, Glutamevit, Undevit, Decamevit, Oligovit, etc. For the assimilation of proteins and the building of muscle tissue, vitamins B6 (beans, soy, meat products), B12 (beef liver, kidneys, fish, milk, cheese), and Bc (liver, kidneys, yeast, and vegetables) are particularly important. Mineral substances are inorganic substances that activate the metabolic processes of the body – water-salt and acid-base.

The main necessary mineral substances and compounds are: calcium – contained in milk and dairy products; phosphorus – present in fish, bread, beans, peas, oatmeal, pearl barley, and barley groats, as well as in cheese; magnesium – in bread and cereal products; sodium (the requirement for it is small – about 1 gram per day); chlorine – obtained with bread and when salting food with table salt; potassium – in potatoes, apples, and grapes; iron – in liver, kidneys, and legumes; iodine – in marine fish, cod liver, and sea kale. In order for an athlete to fully develop their physical qualities, a balance of mineral substances must constantly be maintained in the body.

Water is vitally important for the human body: being its main constituent part, it participates in various biochemical processes. When practicing athleticism, one should not restrict water consumption, because the muscular system consists of 67–70% water and only 18–25% fat.

Restricting water intake leads to a deterioration in the athlete's physical capacity.

Practical Sessions 16–20

Learning exercise complexes.

Aim: An exercise complex for the back muscles using one's own body weight. Wide-grip pull-ups behind the neck. Wide-grip pull-ups to the chest. Bent-arm barbell pullover. Typical exercise complexes. To shape an understanding of circuit training and its variations. Athletic gymnastics as an effective means of body weight regulation.

Knowledge and skills acquired by the student as a result of mastering the topic, and the competencies or their parts being shaped.

Planned learning outcomes for the discipline (module), characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental stress to ensure working capacity in professional activities.
- Maintains an appropriate level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

In physical culture sessions, circuit training acquires special significance, as it allows a large number of practitioners to exercise simultaneously and independently, utilizing a maximum amount of inventory and equipment. Depending on the tasks set, circuit training can be Planned in the preparatory, main, or concluding part of the session. Exercises aimed primarily at developing the muscles of the shoulder girdle, arms, abdomen, and back, increasing joint mobility, and strengthening the entire musculature are selected for circuit training complexes. The number of exercises ranges from 10 to 15 stations. When selecting complexes, it is necessary to observe basic didactic principles, that is, to proceed from the simple to the complex, and to alternate the active rest of some muscle groups with the rest of others.

After a heavy exercise, lighter ones should be selected, providing an opportunity to restore strength and calm the breathing. The number of stations with strength exercises should be gradually increased. A tentative scheme for organizing circuit training is as follows. In the first session, practitioners familiarize themselves with the organizational form of executing exercises at the stations, the sequence of execution, transitions, recording in scorecards, calculations, etc. In the second session, they familiarize themselves with determining the MT (maximum test) for executing the exercise at each station, and with determining the further load according to the MT/2 or MT/4 scheme depending on the physical fitness of the group. In sessions 3–6, they undergo MT/4 + 1 or MT/2 + 1, with a subsequent increase in each session by one or several repetitions.

In the 7th session, a new MT is determined, with a repetition of the previous cycle. The most effective strength exercises are those that can be performed no more than 12–15 times in succession at a single station of a circuit training routine during 30 seconds of work. It is recommended to periodically change the strength exercise complexes. They are changed once every 2–6 weeks.

Athletic gymnastics as an effective means of body weight regulation. Athletic gymnastics excellently assists in the accumulation of muscle tissue and the reduction of fat deposits. In contrast to adipose tissue, muscle tissue is metabolically active and possesses high energy requirements for maintenance and repair. Building muscle tissue corresponds to an acceleration of metabolism. Athletic gymnastics literally allows one to rebuild the body and shed no less than 1 kilogram of adipose tissue per week – and this occurs without health risks, as is often the case with taking dietary drugs or practicing therapeutic fasting.

Practical Sessions 21–22

Learning exercise complexes.

Aim: To study the technique of executing exercises for the chest muscles. Flat-bench dumbbell press. Incline-bench dumbbell press. Flat-bench dumbbell fly. Incline-bench dumbbell fly. Typical exercise complexes. To form a scientific understanding of overstrain and the causes of its occurrence.

Knowledge and skills acquired by the student as a result of mastering the topic, and the competencies or their parts being shaped.

Planned learning outcomes for the discipline (module), characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental stress to ensure working capacity in professional activities.
- Maintains an appropriate level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

Overstrain is a sharp deterioration in well-being due to a load that exceeds the athlete's level of fitness. Usually, it is the result of a single exposure to excessive work. With repeated overloads, overstrain can become chronic and lead to diseases of various organs and systems. Overtraining is a pathology that arises in connection with the overstrain of the central nervous system in a trained athlete. A self-control diary, in which the pulse rate, duration, and quality of

sleep, and appetite are recorded daily, will help avoid these phenomena. You should be alerted by a decrease in the growth of athletic results, irritability, poor sleep, weakening of appetite, and unplanned loss of body weight. When these signs of the initial stage of overtraining appear, it is necessary to identify their causes, which may be: prolonged use of monotonous intensive exercises during under-recovery of strength and insufficient rest, conflict situations during periods of intense training, infectious diseases, violation of the regimen, smoking and alcohol, or large weight loss.

A reasonable combination of weight training with other forms of physical activity, especially those that affect the body in a different way than strength training, will help prevent the further development of pathological conditions: 1. It is important to include in one's regimen work in aerobic types of physical activity associated with increased oxygen consumption, for example, slow running, jump rope, cycling, swimming, skiing, etc. The physiological justification for this requirement is as follows: a) aerobic work develops the lungs, stimulates the work of the heart and the pulmonary circulation, which is important for optimal health and general endurance; b) the increased flow of oxygen into the body and its participation in energy processes help burn under-oxidized breakdown products more rapidly in the form of energy, which are formed in the muscles and bloodstream during strength work and slow down recovery; c) during aerobic work, the body switches to an accelerated metabolic rate, burning fatty acids as the main source of energy; thus, freeing from fat deposits takes place and muscle definition improves. It is important that aerobic work, regardless of its type, lasts at least 25–30 minutes at a pulse rate calculated by the formula: $\text{heartbeat} = 0.08 \text{ times } (220 - \text{age})$. Include such work during the period of gaining strength and muscle mass 1–2 times a week, and during periods of freeing from fat deposits (for muscle definition) – up to 3–4 times a week. 2. Achieving progress in athletic gymnastics sessions is unthinkable without high-quality recovery of the body after sessions – these are physiotherapeutic procedures (bath, sauna, tub, massage, electrolight therapy).

These procedures are employed to relieve general body fatigue, to reduce muscle fatigue, to activate the functions of the nervous and cardiovascular systems, to increase the body's resistance to adverse environmental influences, and to intensively affect various physiological functions. Various baths (coniferous, sodium chloride) have a calming effect on the body. Various types of massage will help relieve severe tension, normalize muscle tone, and provide an analgesic effect.

The body's immune capacities are stimulated by general ultraviolet irradiation and oxygen cocktails. 3. In rare cases of extreme overtraining, it is necessary to temporarily give up weights and engage only in general health-improving types of physical culture. Let us recall that training and recovery are an interconnected process. The recovery of strength implies not only the return of body functions to the pre-work level, but also the transition of the life support system to a new,

higher level of energetic capabilities, called over-recovery. Only against the background of over-recovery is the growth of fitness and increase in working capacity possible, while an increase in strength and muscle volumes is particularly important for athletic gymnastics.

Practical Sessions 23–24

Learning exercise complexes.

Aim: To study the technique of executing athletic gymnastics exercises for the thigh and calf muscles. Barbell half-squats. Leg extensions on a machine. Seated or lying leg curls (on a machine). Lunges. Reverse lunges. Standing dumbbell or barbell calf raises. Typical exercise complexes. To introduce domestic methodological systems of strength development and body beauty building; corrective gymnastics.

Knowledge and skills acquired by the student as a result of mastering the topic, and the competencies or their parts being shaped.

Planned learning outcomes for the discipline (module), characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental stress to ensure working capacity in professional activities.
- Maintains an appropriate level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

1. Kettlebell rhythmathletics is a domestic invention. It represents strength aerobics for men, combining the elegance of rhythmic gymnastics and rational elements of kettlebell methodology (developed at the All-Russian Scientific Research Institute of Physical Culture).
2. Kettlebell lifting – the system of Yu. Romashin, a well-known coach who trains masters of sports from beginners in two years. He himself believes that it is not only about the system, but also about a person's strong desire and purposefulness.
3. Kettlebell lifting (competition program) – the system of M. Starodubtsev (alternating press of two kettlebells, juggling one kettlebell, clean and jerk of two kettlebells; alternating press of two kettlebells, juggling one kettlebell with throwing and catching). Exercises are performed with 24- and 32-kilogram implements depending on the weight category.
4. The increased interest of the peoples inhabiting Russia in their own culture serves as a stimulus for the revival of national sports in modern form (for example, stone and kettlebell throwing in Dagestan, etc.).

5. The system of A. K. Anokhin (voluntary gymnastics). The essence of the gymnastics is that you develop strength by tensing the muscles at your own will without an external load. For example, you rise very, very slowly from a squatting position and maximally tense the leg muscles, as if you have a very heavy load on your shoulders. After you stand up, you lower yourself just as slowly and with the same maximal effort into the initial position; thus, you train the muscles of the anterior and posterior surfaces of the thigh, performing the exercise in a static mode, but during movement.
6. The system of V. G. Fokhtin is based on the principle of self-resistance. You use the limbs as levers, tensing them in a static mode at different angles. For example, you want to train the biceps of your right hand. Having placed it at an angle (or another), you try to flex it, while you counteract this movement with your left hand. As a result, the arm muscles experience tension with such force as you are capable of at the given moment.
7. The system of Yu. A. Peganov is a combination of isometric exercises and stretching.
8. The system of V. I. Dikul is a system of exercises with weights.
9. The system of training sessions of V. F. Regulyan – competitive athleticism (posing and powerlifting).

Corrective gymnastics. Many young men and young women of normal height and weight are often dissatisfied with the shapes of individual parts of their own bodies. The need for their correction arises. And this is possible. It is possible with the selective application of special exercises that develop individual muscle groups and change the general shape of body parts.

Methodologies and existing methods for developing practically every muscle have already been developed by now. The greatest experience of such work has been accumulated in weightlifting, athletic and artistic gymnastics, and shaping. In this regard, it is important to choose, with the help of the instructor, an optimal training system that relies on knowledge of anatomy, physiology, and human movement biomechanics. In addition, one must also become familiar with and master the foundations of training independently.

Questions and Tasks

- Preparatory part: General developmental exercises, flexibility exercises.
- Main part: Characteristics of the muscles of the neck, back, abdomen, shoulder girdle, arms, and legs. Demonstration and learning of basic exercises for the development of the listed muscle groups. To master the technique of basic exercises with medicine balls, dumbbells, and barbells. The load is of moderate intensity; the number of repetitions is 10–12 times in one set. Select the weight of the implements and master the technique of movements and exercises.

- Concluding part: Relaxation exercises, self-massage, analysis of the academic activity of students.
- Tasks: Correction of the development of the back muscles. Correct position of the back when performing exercises with weights; in the initial period of strength training, increase loads gradually; study the technique of correct execution of exercises prior to the application of weights.

Questions for Control

1. The essence of the concept of general physical training.
2. The influence of running sessions on the student's body.
3. The influence of gymnastics sessions on the student's body.
4. Physical quality – strength and the methodology of its development.
5. Physical quality – flexibility and the methodology of its development.
6. Physical quality – agility and the methodology of its development. Coordination abilities.
7. Physical quality – endurance and the methodology of its development.
8. Physical quality – speed and the methodology of its development. Speed-strength abilities.
9. Jumping as a method of human locomotion and a type of sports motor actions.
10. Foundations of training in athletic gymnastics.
11. Hygiene during athletic gymnastics sessions.
12. What does the positive influence of strength training on the human body consist of?
13. The body as a single biological system. Hypodynamia and hypokinesia, their influence on the body.
14. Morphological and main physiological functions of the body. Regularities of their improvement under the influence of a targeted physical load.

List of Recommended Literature

Main Literature

1. Zenkova, T. A. *Professionally-Applied Physical Culture of Students* [Electronic resource] / Zenkova T. A. : a study guide. - 2nd ed., enlarged. - Rostov-on-Don : RSUPS, 2020. - 152 p. - Approved by the academic-methodological council of the university. - ISBN 978-5-88814-921-8
2. *Physical Culture and Sports: a textbook for undergraduate and specialist students in all fields of study implemented by NRU MGSU* / V. A. Nikishkin, N. N. Bumarskova, S. I. Kramskoy [et al.]. - Physical Culture and Sports, 2026-08-04. - Electronic data (1 file). - Moscow : MISI-MGSU, EBS ASV, 2021. - 380 p. - electronic. - The book is in the premium version of EBS IPR BOOKS. - ISBN 978-5-7264-2861-1

Additional Literature

1. *Athletic Gymnastics. Powerlifting. Features of Organizing Sessions in a Higher Educational Institution* [Electronic resource] / Vaseltsova I. A., Belov D. O., Brodetsky A. B., Mostovaya N. V., Averyasova Yu. O. : a study guide. - Samara: SamGUPS, 2019. - 186 p., unlimited copies
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3. Grishina, Yu. I. *Physical Culture of the Student:* a study guide: [for students of institutions of higher education for the discipline Physical Culture] / Yu. I. Grishina. – Rostov-on-Don: Phoenix, 2019. – 284 p.: ill. – (Higher Education). – Endorsement: Recommended by the Scientific-Methodological Council. – App.: p. 271-277. – Bibliogr.: p. 269-270. – ISBN 978-5-222-31286-5
4. Nebytova L. A. *Physical Culture: A Study Guide (Course of Lectures).* / L. A. Nebytova, M. V. Katrenko, N. I. Sokolova - Stavropol: NCFU, 2017. – 336 p.
5. Sapozhnikova, O. V. *Fitness* [Electronic resource]: a study guide / O. V. Sapozhnikova. - Fitness, 2022-08-31. - Yekaterinburg: Ural Federal University, EBS ASV, 2015. - 144 p.
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Methodological Literature

1. Methodological recommendations for organizing independent work in Elective Disciplines (Modules) in Physical Culture and Sports, 2026 [Electronic version].
2. Methodological guidelines for completing practical tasks in Elective Disciplines (Modules) in Physical Culture and Sports, 2026 [Electronic version].

Internet Resources

1. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
2. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
3. <http://www.fizkulturavshkole.ru/default.htm> Journal Physical Culture at School
4. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture

List of Information Technologies, Including the List of Software and Information Reference Systems

Not provided

Information Reference Systems:

Information-reference and information-legal systems used in the study of the discipline:

1. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture
2. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
3. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
4. Professional database of Rosstat // Access mode:
http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/databases/

Software

Special software is not required.

Material and Technical Support

- gym / weight room;
- open sports ground;
- equipment and inventory: treadmills, dumbbells, barbells, exercise machines, body bars, jump ropes, core mats, mats, medicine balls, hoops, gymnastic sticks, etc.

SEMESTER 3

TRAINING IN THE TECHNIQUE OF MOTOR ACTIONS IN BASIC TYPES OF PHYSICAL CULTURE, SPORTS, AND HEALTH-IMPROVING ACTIVITIES

Practical Sessions 1–4

Introductory session. Safety instructions for the sessions.

Aim: Safety in athletic gymnastics sessions. Typical exercise complexes. To shape an understanding of passive flexibility.

Knowledge and skills acquired by the student as a result of mastering the topic, and the competencies or their parts being shaped.

Planned learning outcomes for the discipline (module), characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental stress to ensure working capacity in professional activities.
- Maintains an appropriate level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

Safety in athletic gymnastics sessions. Special safety requirements. Safety requirements in emergency situations. Causes of injuries during athletic gymnastics sessions. Injury prevention measures.

Anatomical foundations of knowledge: human physique. The human muscular system. Main muscle groups that determine body definition. Main muscles and their functions (shoulder girdle). The deltoid muscles are large, three-headed, triangular muscles that surround the shoulder joint. Their main functions are shoulder abduction, pronation, and supination. The trapezoid muscle is located directly beneath the skin on the posterior surface of the torso and neck. Its main function is to elevate the entire shoulder girdle, pull the scapulae upward, downward, and to both sides, and assist in turning the head. Young women are not recommended to overemphasize the development of this muscle. The neckline should be thin and slender. However, if the neck is too thin and long while the shoulders are sloping, it is necessary to increase the training of the trapezoid muscles. The biceps brachii muscle is located on the anterior surface of the humerus. It has two heads – a long head and a short head (biceps). The biceps muscle participates in the flexion of the shoulder and forearm, as well as the supination of the forearm. Accordingly, exercises aimed at developing this muscle are associated with flexing the arms in front of oneself. The triceps brachii

muscle has three heads – the long, lateral, and medial heads (triceps). It is located on the posterior surface of the humerus, directly beneath the skin. The triceps muscle participates in the extension of the forearm. Training this muscle in young women helps prevent excessive body fat accumulation in this part of the body.

Questions and Tasks:

- Preparatory part: Slow running, warm-up (general developmental exercises), specific running exercises.
- Main part: Exercises for the development of passive flexibility. Half-splits, splits.
- Concluding part: Active games. Podvedenie itogov (summing up) the results of the session with an indication of general and individual errors.
- Tasks: Exercises for the development of flexibility and strength of the leg muscles.

Practical Sessions 5–8

Learning exercise complexes.

Aim: To master an exercise complex for the shoulder girdle using one's own body weight. Technique of executing exercises for the muscles of the upper shoulder girdle. Chest press on a machine for deltoid muscles. Seated dumbbell press. Raising arms with dumbbells through the sides upward. Cable lateral raises on a block machine. Typical exercise complexes. To disclose the methodology of shock training in athletic gymnastics.

Knowledge and skills acquired by the student as a result of mastering the topic, and the competencies or their parts being shaped.

Planned learning outcomes for the discipline (module), characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental stress to ensure working capacity in professional activities.
- Maintains an appropriate level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

Exercises for muscles that are more difficult to develop are combined with working out antagonist muscles whose development is more active. For example, if the development of the chest muscles lags behind, after achieving a powerful rush of blood to the torso region due to the work of the latissimus dorsi muscles (antagonists in relation to the pectoral ones), exercises for the

chest and back muscles are combined. Exercises can be performed sequentially or by the method of combined sets (back-chest). Moreover, if a smaller weight of the implement and a larger number of repetitions are applied in the first exercise, then a relatively larger load and a more powerful load with a smaller number of repetitions in series are used in the second one. A similar effect is permissible on the arm muscles. If the triceps lags behind in development, then one must first work on the biceps, and vice versa.

Questions and Tasks:

- Preparatory part: Slow running, warm-up (general developmental exercises, flexibility exercises, bends, lunges).
- Main part: To master an exercise complex for the shoulder girdle using one's own body weight. Technique of executing exercises for the muscles of the upper shoulder girdle. Chest press on a machine for deltoid muscles. Seated dumbbell press. Raising arms with dumbbells through the sides upward. Cable lateral raises on a block machine. Typical exercise complexes.
- Concluding part: Relaxation and flexibility exercises. Analysis of the academic activity of students.

Practical Sessions 9–12

Learning exercise complexes of general physical training.

Discussion. Means and methods of general physical training in physical culture and sports.

Aim: A combined set of exercises for the shoulder girdle. Features of the method of maximal efforts. To shape an understanding of passive flexibility.

Knowledge and skills acquired by the student as a result of mastering the topic, and the competencies or their parts being shaped.

Planned learning outcomes for the discipline (module), characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental stress to ensure working capacity in professional activities.
- Maintains an appropriate level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

According to the manifestation type, a distinction is made between active and passive flexibility. Active flexibility is the ability to perform movements with a large amplitude due to the own activity of the corresponding muscles. Passive flexibility is the ability to achieve the

maximum possible mobility in the joints under the action of external stretching forces: the efforts of a partner, external loads, special devices, etc. According to the method of manifestation, flexibility is subdivided into dynamic and static.

Dynamic flexibility manifests itself in movements, while static flexibility manifests itself in postures. General and special flexibility are also distinguished. General flexibility is characterized by high mobility (amplitude of movements in all joints: hip, ankle, shoulder, elbow, and in the spine).

Special flexibility is characterized by the amplitude of movements of a specific exercise. Indicators of passive flexibility are always higher than indicators of active flexibility.

Active flexibility is realized during performing various exercises, and therefore in practice its significance is higher than that of passive flexibility, which reflects the magnitude of the reserve for the development of active flexibility. A factor influencing mobility in joints is also the general functional state of the body at the given moment: under the influence of fatigue, active flexibility decreases (due to a decrease in the muscles' ability to fully relax after a preceding contraction), while passive flexibility increases (due to lower tone of the muscles counteracting stretching).

Flexibility develops most intensively up to 10–14 years of age. At the same time, the age of 9–10 years will be the sensitive period for the development of passive flexibility, and 10–14 years for active flexibility. After 15–16 years of age, flexibility indicators stabilize, and if exercises specifically targeting the development of flexibility are not performed, it begins to decrease as early as youth.

Questions and Tasks:

- Preparatory part: Slow running, warm-up (general developmental exercises), specific running exercises.
- Main part: Combined complex of exercises for the shoulder girdle. Features of the method of maximal efforts. Exercises for the development of passive flexibility, splits.
- Concluding part: Active games. Summing up the results of the session with an indication of general and individual errors.
- Tasks: Exercises for the development of flexibility and strength of the leg muscles.

Practical Sessions 13–20

Learning exercise complexes of general physical training.

Discussion. Means and methods of general physical training in physical culture and sports.

Aim: To perform a combined complex of exercises for the back muscles. Typical exercise complexes.

Knowledge and skills acquired by the student as a result of mastering the topic, and the competencies or their parts being shaped.

Planned learning outcomes for the discipline (module), characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental stress to ensure working capacity in professional activities.
- Maintains an appropriate level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

The primary factor in the development of muscle strength is their activity under significant and constantly increasing (up to the maximal level) tensions. In sports practice, these conditions are created using various means and methods.

Training in a particular sport (in the specialized exercise), along with other physical qualities, develops strength; however, a variety of special exercises and specially-auxiliary exercises are mandatory used additionally for strength training.

This is necessary due to the fact that they, firstly, allow achieving a greater effect, mainly due to the development of strength in combination with other qualities. Secondly, one of the advantages of special and specially-auxiliary exercises over the specialized exercise is the possibility of a local effect on individual muscle groups. Finally, these exercises provide an opportunity to diversify the load, thanks to which it is possible to more flexibly affect the vegetative functions and motor qualities of the athlete without overloading their nervous system.

The main means of strength training imply exercises with various types of weights (overcoming one's own weight and the weight of a partner, with a barbell, dumbbells, medicine balls, shock absorbers, pulley devices, etc.).

To cultivate strength in sports practice, several methods are used, differing in the magnitude of resistances, the number of repetitions, and the mode of executing exercises (tempo, speed of movements, duration of rest pauses):

The method of maximal effort (sometimes this method is also called the method of short-term efforts or the method of short-term maximal strength loads). Its essence consists in the fact that the athlete, overcoming or attempting to overcome maximal resistance, manifests a muscular effort that is limit for the given case, which is an exceptionally powerful and, consequently, effective physiological stimulus.

An example of applying the method of maximal efforts is lifting a barbell of limit weight, pull-ups on a bar or dips on parallel bars with an additional load, isometric exercises performed with limit tension, etc.

The mode of executing exercises according to this method is expressed in general terms as follows: the magnitude of resistance is 1–3 RM*, the number of repetitions is 1–3, the tempo of movements is low, the speed is from low to moderate, and the rest pause between exercises and sets is at least 2 minutes.

Questions and Tasks:

- Preparatory part: Slow running, warm-up (general developmental exercises), specific running exercises.
- Main part: To perform a combined complex of exercises for the back muscles.
- Concluding part: Active games. Summing up the results of the session with an indication of general and individual errors.
- Tasks: Exercises for the development of flexibility and strength of the leg muscles.

Practical Sessions 21–24

Learning exercise complexes.

Aim: To disclose the concept of flexibility and the methodology of its development. A combined complex of exercises for flexibility. Rules of recovery after a workout. Split training program (basic concepts). Rules for constructing a split training program.

Knowledge and skills acquired by the student as a result of mastering the topic, and the competencies or their parts being shaped.

Planned learning outcomes for the discipline (module), characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental stress to ensure working capacity in professional activities.
- Maintains an appropriate level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

In the system of ideas about physical qualities, flexibility occupies a special place. In some textbooks, study guides, and monographs, it is either not included at all in the list of basic physical qualities, or it is considered as a prerequisite contributing to a more effective manifestation of

human motor capabilities, especially those that involve performing movements with a large amplitude. This attitude is largely due to the fact that the manifestation of flexibility itself is determined mainly by the state of the musculoskeletal system and is not associated with significant tension of the main functional systems of the body (cardiovascular, respiratory, excretory, energy supply, etc.), which is characteristic of the manifestation of other physical qualities. Flexibility is a manifestation of the morphofunctional properties of the musculoskeletal system that determine the degree of mobility of its links. It is measured by determining the maximum (limit) amplitude of movements.

Two methods are mainly used for this purpose. One of them is based on the use of special devices – goniometers, with the help of which mobility in individual joints is measured. This method requires special equipment and does not allow measuring the amplitude of many movements independently. It is much simpler to measure the amplitude of movements using special motor tests.

A special place is given to measuring the flexibility of the spinal column. In a comprehensive assessment of human motor capabilities, to determine flexibility, as a rule, movements are used in which the largest possible number of large joints and mandatory the spine participate. At the same time, the movement must be performed along the maximum possible amplitude for a given person, when all joints and the spine involved in the movement function at the limit of their capabilities. Most often, a deep forward bend from the main stance (standing on a bench) is used for this.

The degree of flexibility is assessed by how much higher or lower than the support the subject's fingers turned out to be at the moment of fixing the maximum depth of the bend. There are other tests, for example, backward bends (arching), forward bends from a seated position, etc. General and special varieties of flexibility are also distinguished. General flexibility is characterized by the maximum amplitude of movements in the largest joints, and special flexibility by the amplitude corresponding to the technique of a specific motor action. Flexibility is determined by the structural features of the joints and the elasticity of muscles and ligaments. The degree of their elasticity depends on the external temperature, with an increase in which it increases. The manifestation of flexibility, more than the manifestation of other physical qualities, is affected by diurnal periodicity (time of day). In the morning hours, flexibility is significantly reduced. It increases under the influence of warming up the body with the help of a warm-up. At the same time, indicators of active flexibility deteriorate, while those of passive flexibility increase.

The manifestation of flexibility is also affected by the psychological state of the practitioners. Thus, under conditions of emotional uplift, flexibility increases. Flexibility can be negatively related to strength indicators. Excessive passion for strength exercises without proper

attention to the development of flexibility leads to a significant limitation of joint mobility. This negative influence can be prevented by a rational combination of strength and flexibility exercises, which allows achieving a high degree of development of both qualities. Flexibility develops most intensively up to 15–17 years of age. At the same time, the most favorable period for the development of passive flexibility is the age of 9–10 years, and for active flexibility, 10–14 years. In girls, flexibility indicators are significantly – by 20–30% – higher than in boys.

For the targeted development of flexibility, exercises with increased amplitude are used – stretching exercises. They are subdivided into active (dynamic and static) and passive. Active exercises differ in the nature of execution: single-phase and springy, swinging and fixed, with self-grips, with and without weights. This group also includes static exercises, in which the task is given to maintain a motionless body position under conditions of maximum amplitude.

Questions and Tasks:

- Preparatory part: Slow running, warm-up (general developmental exercises), specific running exercises.
- Main part: Exercises for the development of flexibility in pairs.
- Concluding part: Summing up the results of the session with an indication of general and individual errors.
- Tasks: Exercises for the development of flexibility and strength of the leg muscles.

Practical Sessions 25–28

Learning exercise complexes.

Aim: Rules for executing exercises with free weights (dumbbells and barbells). Typical exercise complexes.

Knowledge and skills acquired by the student as a result of mastering the topic, and the competencies or their parts being shaped.

Planned learning outcomes for the discipline (module), characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental stress to ensure working capacity in professional activities.
- Maintains an appropriate level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

Free weights, as a rule, refer to dumbbells and barbells – equipment that consists of a bar with weights in the form of plates. Training with free weights will not only make you stronger but will also allow you to develop coordination and flexibility. Unlike strength training machines that force individual muscles to work, free weights load ligaments, tendons, and auxiliary muscles. Not a single basic exercise can do without free weights, with which any instructor tortures novice athletes (and you, with a high degree of probability, are precisely he, a future superhero and a novice athlete).

The problem is that all the advantages of such training, which experienced athletes enjoy, can turn into an uncomfortable situation at best for a beginner, and an injury at worst. In order for training with free weights to bring you benefit and pleasure, it is enough to keep 5 simple rules in mind.

1. Do not be shy to ask others to spot you. Support is necessary when performing a flat bench press with free weights, especially if you want to increase the load. No one will judge you if you turn to an instructor or another gym visitor for help. Do not forget to warn your assistant about how many repetitions you are going to perform.
2. Be careful when lifting weight plates. Do not forget that you can get injured not only when performing exercises with free weights, but also during preparation for it: do not be lazy to lift plates with both hands. If the plate itself seems too heavy to you, forget about performing the exercise with this weight.
3. Do not hurl the implement onto the floor after performing the exercise. This will scare some muscular fellow, and the plates that slip off from the impact can damage your feet.
4. Follow the technique. In the early stages, it is better to work with a small weight to establish a brain-muscle connection, as well as to work out the technique. Otherwise, you risk losing control over the implement and getting hurt.
5. Never lift dumbbells, plates, or barbells with straight legs if they are lying on the floor. If you do not want to damage your knees and back, you should bend your legs slightly so that the body can absorb the weight of the implement.

Questions and Tasks:

- Preparatory part: Jogging – 7–10 minutes. General developmental and specific running exercises – 20 minutes.
- Main part: Rules for executing exercises with free weights (dumbbells and barbells). Typical exercise complexes.
- Concluding part: Exercises for psychoregulation. Analysis of the academic activity of students.
- Tasks: Development of leg muscle strength.

Practical Sessions 29–32

Learning exercise complexes.

Aim: An exercise complex with free weights for the back and arm muscles. Typical exercise complexes.

Knowledge and skills acquired by the student as a result of mastering the topic, and the competencies or their parts being shaped.

Planned learning outcomes for the discipline (module), characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental stress to ensure working capacity in professional activities.
- Maintains an appropriate level of physical fitness to ensure full-fledged social and professional activities.

Questions and Tasks:

- Preparatory part: Jogging – 7–10 minutes. General developmental and specific running exercises – 20 minutes.
- Main part: An exercise complex with free weights for the back and arm muscles. Typical exercise complexes.
- Concluding part: Exercises for breathing, flexibility, and psychoregulation. Analysis of the academic activity of students.

Practical Sessions 33–36

Learning exercise complexes.

Aim: An exercise complex with free weights for the shoulder girdle and leg muscles. Typical exercise complexes.

Knowledge and skills acquired by the student as a result of mastering the topic, and the competencies or their parts being shaped.

Planned learning outcomes for the discipline (module), characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.

- Rationally combines physical and mental stress to ensure working capacity in professional activities.
- Maintains an appropriate level of physical fitness to ensure full-fledged social and professional activities.

Questions and Tasks on the Content of the Discipline Topics for the Semester:

- Preparatory part: General developmental exercises, flexibility exercises.
- Main part: Characteristics of the muscles of the neck, back, abdomen, shoulder girdle, arms, and legs. Demonstration and learning of basic exercises for the development of the listed muscle groups. To master the technique of basic exercises with medicine balls, dumbbells, and barbells. The load is of moderate intensity; the number of repetitions is 10–12 times in one set. Select the weight of the implements and master the technique of movements and exercises.
- Concluding part: Relaxation exercises, self-massage, analysis of the academic activity of students.
- Tasks: Correction of the development of the back muscles. Correct position of the back when performing exercises with weights; in the initial period of strength training, increase loads gradually; study the technique of correct execution of exercises prior to the application of weights.

Questions for Control

1. The essence of the concept of general physical training.
2. The influence of running sessions on the student's body.
3. The influence of gymnastics sessions on the student's body.
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5. Physical quality – flexibility and the methodology of its development.
6. Physical quality – agility and the methodology of its development. Coordination abilities.
7. Physical quality – endurance and the methodology of its development.
8. Physical quality – speed and the methodology of its development. Speed-strength abilities.
9. Jumping as a method of human locomotion and a type of sports motor actions.
10. Foundations of training in athletic gymnastics.
11. Hygiene during athletic gymnastics sessions.
12. What does the positive influence of strength training on the human body consist of?
13. The body as a single biological system. Hypodynamia and hypokinesia, their influence on the body.
14. Morphological and main physiological functions of the body. Regularities of their improvement under the influence of a targeted physical load.

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3. Grishina, Yu. I. *Physical Culture of the Student:* a study guide: [for students of institutions of higher education for the discipline Physical Culture] / Yu. I. Grishina. – Rostov-on-Don: Phoenix, 2019. – 284 p.: ill. – (Higher Education). – Endorsement: Recommended by the Scientific-Methodological Council. – App.: p. 271-277. – Bibliogr.: p. 269-270. – ISBN 978-5-222-31286-5
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Methodological Literature:

1. Methodological recommendations for organizing independent work in Elective Disciplines (Modules) in Physical Culture and Sports, 2026 [Electronic version].
2. Methodological guidelines for the execution of practical tasks in Elective Disciplines (Modules) in Physical Culture and Sports, 2026 [Electronic version].

Internet Resources

1. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
2. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
3. <http://www.fizkulturavshkole.ru/default.htm> Journal Physical Culture at School
4. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture

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2. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
3. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
4. Professional database of Rosstat // Access mode:
http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/databases/

Software

Special software is not required.

Material and Technical Support

- gym / weight room;
- open sports ground;
- equipment and inventory: treadmills, dumbbells, barbells, exercise machines, body bars, jump ropes, core mats, mats, medicine balls, hoops, gymnastic sticks, etc.

SEMESTER 4

PERFECTING THE TECHNIQUE OF MOTOR ACTIONS IN BASIC TYPES OF PHYSICAL CULTURE, SPORTS, AND HEALTH-IMPROVING ACTIVITIES

Practical Sessions 1–4

Introductory session. Safety instructions for the sessions.

Aim: Safety in athletic gymnastics sessions. Typical exercise complexes. To shape an understanding of passive flexibility.

Knowledge and skills acquired by the student as a result of mastering the topic, and the competencies or their parts being shaped.

Planned learning outcomes for the discipline (module), characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental stress to ensure working capacity in professional activities.
- Maintains an appropriate level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

Safety in athletic gymnastics sessions. Special safety requirements. Safety requirements in emergency situations. Causes of injuries during athletic gymnastics sessions. Injury prevention measures.

Anatomical foundations of knowledge: human physique. The human muscular system. Main muscle groups that determine body definition. Main muscles and their functions (shoulder girdle). The deltoid muscles are large, three-headed, triangular muscles that surround the shoulder joint. Their main functions are shoulder abduction, pronation, and supination. The trapezoid muscle is located directly beneath the skin on the posterior surface of the torso and neck. Its main function is to elevate the entire shoulder girdle, pull the scapulae upward, downward, and to both sides, and assist in turning the head. Young women are not recommended to overemphasize the development of this muscle. The neckline should be thin and slender. However, if the neck is too thin and long while the shoulders are sloping, it is necessary to increase the training of the trapezoid muscles. The biceps brachii muscle is located on the anterior surface of the humerus. It has two heads – a long head and a short head (biceps). The biceps muscle participates in the flexion of the shoulder and forearm, as well as the supination of the forearm. Accordingly, exercises aimed at developing this muscle are associated with flexing the arms in front of oneself. The triceps brachii

muscle has three heads – the long, lateral, and medial heads (triceps). It is located on the posterior surface of the humerus, directly beneath the skin. The triceps muscle participates in the extension of the forearm. Training this muscle in young women helps prevent excessive body fat accumulation in this part of the body.

Questions and Tasks:

- Preparatory part: Slow running, warm-up (general developmental exercises), specific running exercises.
- Main part: Exercises for the development of passive flexibility. Half-splits, splits.
- Concluding part: Active games. Summing up the results of the session with an indication of general and individual errors.
- Tasks: Exercises for the development of flexibility and strength of the leg muscles.

Practical Sessions 5–20

Learning exercise complexes.

Aim: A combined complex of exercises using various weights for the abdominal muscles.

Typical exercise complexes.

Knowledge and skills acquired by the student as a result of mastering the topic, and the competencies or their parts being shaped.

Planned learning outcomes for the discipline (module), characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental stress to ensure working capacity in professional activities.
- Maintains an appropriate level of physical fitness to ensure full-fledged social and professional activities.

Questions and Tasks:

- Preparatory part: Jogging – 7–10 minutes. General developmental and specific running exercises – 25 minutes.
- Main part: A combined complex of exercises using various weights for the abdominal muscles. Typical exercise complexes.
- Concluding part: Exercises for breathing, relaxation, and psychoregulation. Analysis of the academic activity of students.

- Tasks: Development of the strength of the muscles of the shoulder girdle, abdomen, back, and general endurance.

Practical Sessions 21–32

Learning exercise complexes.

Aim: A circuit complex of exercises using various weights for the abdominal muscles.

Knowledge and skills acquired by the student as a result of mastering the topic, and the competencies or their parts being shaped.

Planned learning outcomes for the discipline (module), characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental stress to ensure working capacity in professional activities.
- Maintains an appropriate level of physical fitness to ensure full-fledged social and professional activities.

Questions and Tasks:

- Preparatory part: Jogging – 7–10 minutes. General developmental and specific running exercises – 20 minutes.
- Main part: A circuit complex of exercises using various weights for the abdominal muscles.
- Concluding part: Exercises for breathing, psychoregulation, and flexibility. Analysis of the academic activity of students.
- Tasks: Development of the strength of the muscles of the shoulder girdle, abdomen, and back.

Questions and Tasks on the Topics for the Semester

- Preparatory part: General developmental exercises, flexibility exercises.
- Main part: Characteristics of the muscles of the neck, back, abdomen, shoulder girdle, arms, and legs. Demonstration and learning of basic exercises for the development of the listed muscle groups. To master the technique of basic exercises with medicine balls, dumbbells, and barbells. The load is of moderate intensity; the number of repetitions is 10–12 times in one set. Select the weight of the implements and master the technique of movements and exercises.
- Concluding part: Relaxation exercises, self-massage, analysis of the academic activity of students.

- Tasks: Correction of the development of the back muscles. Correct position of the back when performing exercises with weights; in the initial period of strength training, increase loads gradually; study the technique of correct execution of exercises prior to the application of weights.

Questions for Control

1. The essence of the concept of general physical training.
2. The influence of running sessions on the student's body.
3. The influence of gymnastics sessions on the student's body.
4. Physical quality – strength and the methodology of its development.
5. Physical quality – flexibility and the methodology of its development.
6. Physical quality – agility and the methodology of its development. Coordination abilities.
7. Physical quality – endurance and the methodology of its development.
8. Physical quality – speed and the methodology of its development. Speed-strength abilities.
9. Jumping as a method of human locomotion and a type of sports motor actions.
10. Foundations of training in athletic gymnastics.
11. Hygiene during athletic gymnastics sessions.
12. What does the positive influence of strength training on the human body consist of?
13. The body as a single biological system. Hypodynamia and hypokinesia, their influence on the body.
14. Morphological and main physiological functions of the body. Regularities of their improvement under the influence of a targeted physical load.

List of Recommended Literature

Main Literature

1. Zenkova, T. A. *Professionally-Applied Physical Culture of Students* [Electronic resource] / Zenkova T. A. : a study guide. - 2nd ed., enlarged. - Rostov-on-Don : RSUPS, 2020. - 152 p. - Approved by the academic-methodological council of the university. - ISBN 978-5-88814-921-8
2. *Physical Culture and Sports*: a textbook for undergraduate and specialist students in all fields of study implemented by NRU MGSU / V. A. Nikishkin, N. N. Bumarskova, S. I. Kramskoy [et al.]. - Physical Culture and Sports, 2026-08-04. - Electronic data (1 file). - Moscow : MISI-MGSU, EBS ASV, 2021. - 380 p. - electronic. - The book is in the premium version of EBS IPR BOOKS. - ISBN 978-5-7264-2861-1

Additional Literature

1. *Athletic Gymnastics. Powerlifting. Features of Organizing Sessions in a Higher Educational Institution* [Electronic resource] / Vaseltsova I. A., Belov D. O., Brodetsky A. B., Mostovaya N. V., Averyasova Yu. O. : a study guide. - Samara: SamGUPS, 2019. - 186 p., unlimited copies
2. Grishina, Yu. I. *General Physical Training. To Know and to Be Able to:* [a study guide for students of higher educational institutions] / Yu. I. Grishina. - Rostov-on-Don: Phoenix, 2016. - 250 p.: ill. - (Higher Education). - Endorsement: Additional Academic-Methodological Association. - Bibliogr.: p. 244-245.
3. Grishina, Yu. I. *Physical Culture of the Student:* a study guide: [for students of institutions of higher education for the discipline Physical Culture] / Yu. I. Grishina. – Rostov-on-Don: Phoenix, 2019. – 284 p.: ill. – (Higher Education). – Endorsement: Recommended by the Scientific-Methodological Council. – App.: p. 271-277. – Bibliogr.: p. 269-270. – ISBN 978-5-222-31286-5
4. Nebytova L. A. *Physical Culture: A Study Guide (Course of Lectures).* / L. A. Nebytova, M. V. Katrenko, N. I. Sokolova - Stavropol: NCFU, 2017. – 336 p.
5. Sapozhnikova, O. V. *Fitness* [Electronic resource]: a study guide / O. V. Sapozhnikova. - Fitness, 2022-08-31. - Yekaterinburg: Ural Federal University, EBS ASV, 2015. - 144 p.
6. *Elective Courses in Physical Culture and Sports:* a study guide (practicum): / Ministry of Science and Higher Education of the Russian Federation, Federal State Autonomous Educational Institution of Higher Education North-Caucasus Federal University; compilers: M. V. Katrenko, D. I. Savin. - Stavropol: NCFU, 2020. - 152 p. : ill.

Methodological Literature:

1. Methodological recommendations for organizing independent work in Elective Disciplines (Modules) in Physical Culture and Sports, 2026 [Electronic version].
2. Methodological guidelines for the execution of practical tasks in Elective Disciplines (Modules) in Physical Culture and Sports, 2026 [Electronic version].

Internet Resources:

1. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
2. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
3. <http://www.fizkulturavshkole.ru/default.htm> Journal Physical Culture at School
4. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture

List of Information Technologies Used in the the Discipline, Including the List of Software and Information Reference Systems

Not provided

Information Reference Systems:

Information-reference and information-legal systems used in the study of the discipline:

1. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture
2. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
3. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
4. Professional database of Rosstat // Access mode:
http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/databases/

Software

Special software is not required.

Material and Technical Supplies for the Discipline

- gym / weight room;
- open sports ground;
- equipment and inventory: treadmills, dumbbells, barbells, exercise machines, body bars, jump ropes, core mats, mats, medicine balls, hoops, gymnastic sticks, etc.

SEMESTER 5

REFINEMENT OF MOTOR SKILL TECHNIQUES IN BASIC TYPES OF PHYSICAL
CULTURE, SPORTS, AND HEALTH-PROMOTING ACTIVITIES

Practical Classes 1-7

Learning Complex Exercises.

Aim: To familiarize students with safety regulations during athletic gymnastics classes. Special safety requirements. Safety requirements in emergency situations. Causes of injuries during athletic gymnastics sessions. Injury prevention measures. Fundamentals of general developmental exercises (GDE) in athletic gymnastics. To develop an understanding of the human muscular system and the main muscle groups that determine body definition and strength development.

Knowledge, skills, and competencies (or parts thereof) acquired by the student as a result of mastering the topic.

Planned learning outcomes for the discipline (module) characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-preserving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental loads to ensure work capacity in professional activities.
- Maintains the required level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

Safety regulations for athletic gymnastics classes. Special safety requirements. Safety requirements in emergency situations. Causes of injuries during athletic gymnastics sessions. Injury prevention measures. Anatomical foundations of knowledge: human physique. The human muscular apparatus. Main muscle groups that determine body definition. Main muscles and their functions (shoulder girdle). Deltoid muscles are large, three-headed, triangular muscles surrounding the shoulder joint. Their main functions are shoulder abduction, pronation, and supination. The trapezius muscle is located directly under the skin on the posterior surface of the torso and neck. Its main function is to elevate the entire shoulder girdle, pull the scapulae upward, downward, and inward, and assist in turning the head. Girls are not recommended to overemphasize the development of this muscle. The neck line should remain slender and elegant.

However, if the neck is too thin and long, and the shoulders are sloped, it is necessary to intensify the training of the trapezius muscles.

The biceps brachii is located on the anterior surface of the humerus. It has two heads – long and short (biceps). The biceps muscle is involved in the flexion of the shoulder and forearm, and supination of the forearm. Accordingly, exercises aimed at developing this muscle involve flexing the arms in front of the body. The triceps brachii has three heads – long, lateral, and medial (triceps). It is located on the posterior surface of the humerus, directly under the skin. The triceps muscle participates in the extension of the forearm. Training this muscle in girls helps avoid excess flabbiness in this part of the body.

Questions and Tasks:

- Preparatory Part: GDE (General Developmental Exercises), flexibility exercises.
- Main Part: Characteristics of the muscles of the neck, back, abdomen, shoulder girdle, arms, and legs. Demonstration and learning of basic exercises for the development of the listed muscle groups. Learn the technique of basic exercises with medicine balls, dumbbells, and barbells. Moderate intensity load, number of repetitions: 10–12 times per set. Select the weight of the equipment and learn the technique of movements and exercises.
- Concluding Part: Relaxation exercises, self-massage, analysis of students' learning activities.
- Assignments: Correction of back muscle development. Proper position of the back when performing exercises with weights; in the initial period of strength training, increase loads gradually, study the technique of correct exercise execution before applying heavy weights.

Practical Classes 8-14

Learning Complex Exercises.

Aim: Circuit training complex using various weights for chest muscles and biceps.

Knowledge, skills, and competencies (or parts thereof) acquired by the student as a result of mastering the topic.

Planned learning outcomes for the discipline (module) characterizing the competency and indicator development:

- Demonstrates knowledge of health-preserving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental loads to ensure work capacity in professional activities.

- Maintains the required level of physical fitness to ensure full-fledged social and professional activities.

Questions and Tasks:

- Preparatory Part: Jogging for 7–10 minutes. General developmental and special running exercises for 20 minutes.
- Main Part: Circuit training complex using various weights for chest muscles and biceps.
- Concluding Part: Breathing exercises, psychoregulation, and flexibility. Analysis of students' learning activities.
- Assignments: Development of muscle strength in the shoulder girdle, abdomen, and back.

Practical Classes 15-21

Diagnostics of Physical Fitness.

Aim: To examine the structure, content, and organization of athletic gymnastics classes. To study the main goals, objectives, and methods of athletic gymnastics. Testing the baseline level of physical fitness. Rules for compiling a training exercise routine. To consider the history, current state, and prospects of athletic gymnastics development in Russia.

Knowledge, skills, and competencies (or parts thereof) acquired by the student as a result of mastering the topic.

Planned learning outcomes for the discipline (module) characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-preserving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental loads to ensure work capacity in professional activities.
- Maintains the required level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

Structure, content, and organization of athletic gymnastics classes. Main goals, objectives, and methods of athletic gymnastics. Testing the baseline level of physical fitness. Rules for compiling a training exercise routine.

Athletic gymnastics, as the Honored Scientist, Professor I.M. Sarkizov-Serazini wrote, is one of the most effective means that comprehensively affects the human body. The abundance of exercises and the ability to finely dose loads make this important means of health improvement

accessible to people of all ages. And the aesthetic side of athletic gymnastics brings it closer to true art. It is the pursuit of body beauty that distinguishes athleticism from other types of physical culture. From the perspective of the theory and methodology of physical education, athletic gymnastics is a type of physical exercise aimed at developing the strength capacities of the human body, improving health, and correcting physique. The roots of athleticism, of course, must be sought in Ancient Greece, but it was in Russia that the direction finally took shape, which subsequently yielded fruitful branches: kettlebell lifting, weightlifting, and, finally, athletic gymnastics. In 1885, Dr. V.F. Kraevsky founded an athletics amateur club in St. Petersburg. The club's program included the pursuit of physical development, health, and body conditioning, and the athletes of those years also solved aesthetic problems: they attempted to achieve Ancient Greek physique standards in their development. After the 1917 Revolution, the ideals of athleticism gradually faded into the background, and other types of strength sports developed. It was only in 1981 that the Directorate of Combat Sports recommended a wider expansion of work in the field of kettlebell lifting and athletic gymnastics, creating committees for athletic gymnastics and kettlebell lifting under the Weightlifting Federations, and developing their work plans, providing for the organization of clubs, sections, and community groups. Athletic gymnastics in its modern version goes beyond the boundaries of the concept of a sport. It represents an attitude toward physical culture as an obligation to preserve and multiply the fund of health and physical qualities with which nature has endowed humans over millions of years of evolution.

Experience shows that practitioners can develop great strength (the ability to overcome external resistance through muscular contractions), achieve a high level of endurance (the ability to perform physical work without the onset of fatigue), and eliminate or sharply reduce the harmful effects of so-called risk factors on the body.

A person engaged in athleticism receives a sufficient physical load, and in an optimal combination of exercises for strength and endurance; by improving blood circulation in general and blood supply to the brain in particular, classes expand the possibilities for fruitful mental work; the athlete gets rid of excess fat deposits due to the exercise regimen and rational nutrition; a low-fat diet reduces cholesterol deposition on blood vessel walls; systematic exercise and an emphasis on calcium-rich dairy products in the diet help prevent osteoporosis (bone thinning), which affects almost half of elderly women and one in eight elderly men; strength loads strengthen the nervous system and reduce emotional overload; and finally, there is no place for bad habits in an athlete's routine, since smoking and alcohol consumption eliminate the possibility of achieving the set goals.

Questions and Tasks:

- Preparatory Part: Slow running, warm-up (GDE, flexibility exercises, bends, lunges).

- Main Part: Provide characteristics of the main muscle groups, exercises for their development. Learn the technique of performing basic exercises with dumbbells. Select the weight of the equipment. Moderate intensity load, number of repetitions: 10–12 times per set. Learn a complex of exercises with dumbbells. Review the methodology of training strength endurance. Circuit training.
- Concluding Part: Relaxation and flexibility exercises. Analysis of students' learning activities.
- Assignments: Correction of back muscle development. Proper position of the back when performing exercises with weights; in the initial period of strength training, increase loads gradually, study the technique of correct exercise execution before applying heavy weights.

Practical Classes 22-28

Diagnostics of Physical Fitness

Aim: To shape an understanding of strength development. To study the technique of performing basic barbell exercises used for strength training. Master the Presses. Clean (lifting the barbell to the chest). Standing overhead press. Become familiar with standard exercise routines.

Knowledge, skills, and competencies (or parts thereof) acquired by the student as a result of mastering the topic.

Planned learning outcomes for the discipline (module) characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-preserving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental loads to ensure work capacity in professional activities.
- Maintains the required level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

Human strength is defined as the ability to overcome external resistance or counteract it through muscular tension. Muscles manifest strength in the following modes: without changing their length (static, isometric mode); while shortening length (overcoming, myometric mode); while lengthening (yielding, plyometric mode).

The overcoming and yielding modes are combined under the concept of dynamic mode. The following types of strength abilities are distinguished: 1) actual strength abilities (in static modes and slow movements); 2) speed-strength abilities (dynamic strength in fast movements); 3)

an important variation is explosive strength. To compare the strength of people of different weights, the concept of relative strength is usually used, which is understood as the amount of strength per 1 kg of one's own body weight. The strength that a person manifests in any exercise, evaluated regardless of body weight, is sometimes called absolute strength. It can be characterized, for example, by the maximum weight of a lifted barbell, dynamometer readings, etc. Thus, relative strength is the manifestation of absolute strength divided by body weight. The maximum strength a person can manifest depends on biochemical and physiological factors expressed in individual abilities.

The main purpose of nurturing strength as a human physical quality is to develop it comprehensively and ensure the possibility of high performance in various types of motor activities. In addition, strength, like other physical qualities, is an indicator of human health level.

Therefore, in the process of strength training, a health-promoting task is also solved. In our country, athletic gymnastics develops in two directions: health-promoting (health and rehabilitation centers) and competitive (posing and powerlifting). Specific tasks of strength training may include: acquiring and improving the ability to perform the main types of efforts – static and dynamic, actual strength, overcoming and yielding; harmonious strengthening of all muscle groups of the motor apparatus in terms of strength; developing abilities to rationally use strength in various conditions; building body beauty, etc.

Depending on the specific conditions of a certain activity and motivations, specific tasks for specialized strength education are solved. The means of strength training are exercises with increased resistance, which are traditionally divided into two groups: 1) exercises with external resistance (weight of objects, partner's counteraction, resistance of elastic objects, resistance of the external environment); 2) exercises burdened by one's own body weight, as well as supplemented by the weight of various objects.

Study the technique of performing basic barbell exercises used for strength training. Master the Presses. Clean. Standing overhead press. Become familiar with standard exercise routines.

Questions and Tasks:

- Preparatory Part: GDE, flexibility exercises.
- Main Part: Study the technique of performing basic barbell exercises used for strength training. Master the Presses. Clean. Standing overhead press. Become familiar with standard exercise routines. Characteristics of chest muscles. Demonstration and learning of basic exercises for the development of the listed groups. Select the weight of the equipment and learn the technique of movements and exercises. Exercises in hanging on the crossbar: pull-ups, holding a hang on bent arms, pull-over to support.

- Concluding Part: Relaxation exercises, self-massage, analysis of students' learning activities.
- Assignments: Correction of back muscle development. Proper position of the back when performing exercises with weights; in the initial period of strength training, increase loads gradually, study the technique of correct exercise execution before applying heavy weights.

Practical Classes 29-36

Learning complexes of exercises for general and special physical training.

Discussion: Means and methods of special physical training in the chosen type of physical culture and sports activity.

Aim: To master the technique of performing basic barbell exercises used for strength training. Study the technique of Squats. Barbell back squat. Half-squat. Repetition of standard exercise routines. To shape an understanding of an athlete's nutrition and safety regulations during athletic gymnastics sessions.

Knowledge, skills, and competencies (or parts thereof) acquired by the student as a result of mastering the topic.

Planned learning outcomes for the discipline (module) characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-preserving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental loads to ensure work capacity in professional activities.
- Maintains the required level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

Nutrition is a complex process involving the intake, digestion, absorption, and assimilation within the body of nutrients that are necessary to cover its energy expenditures, build and restore body cells and tissues, and regulate the body. Rational nutrition combined with weight exercises can create or restore an optimal physique. Proteins play the primary role in building (plasticity of) the body.

Dietary protein is a highly complex organic compound that includes about 20 amino acids, 8 of which cannot be formed in the human body and must mandatory be supplied with food. Only in the presence of all required amino acids can the structural elements of muscles – myofibrils – thicken, thereby increasing muscle strength. Only protein containing essential amino acids

performs structural functions, whereas incomplete protein is either excreted from the body or converted into fat. Therefore, athletes who do not pay attention to their diet cannot count on full success in achieving their set goals. Fats (lipids) are suppliers of energy (calories) in the body and are essential components of nutrition. However, excessive consumption of fats contributes to the development of atherosclerosis and obesity, while a prolonged restriction of the amount of fats in food results in changes in the physiological state of the body: the activity of the central nervous system is disrupted, immunity is weakened, meaning resistance to infections decreases, etc.

Lipids possess high caloric value: 1 gram yields 9 kilocalories, which is more than twice the caloric value of proteins and carbohydrates. In the composition of food products, a distinction is made between so-called invisible fats (in meat, fish, milk) and visible fats – specially added vegetable oils and animal fats. The source of vegetable fats is primarily vegetable oils (99.9% fat), nuts (53–65%), oatmeal (6.9%), and buckwheat (3.3%) groats. The source of animal fats includes pork lard (90–92% fat), butter (72–82%), sausage (20–40%), sour cream (30%), and cheeses (15–30%). Carbohydrates are important energetic components of food. From the standpoint of digestibility in the human body, carbohydrates are conventionally divided into two groups – those digestible in the digestive tract and those indigestible. Digestible carbohydrates include glucose, fructose, sucrose, maltose, starch, etc. Indigestible carbohydrates include cellulose, pectin substances, and dextrans.

Digestible carbohydrates, which are the main suppliers of energy, are to be found in fresh vegetables, potatoes, rice, and fruits. An athlete under moderate physical loads should consume 60–70 grams of simple carbohydrates per day.

During intense athletic training sessions, the carbohydrate stores work at full capacity; therefore, between daily workouts, it is recommended to additionally consume carbohydrates without special restrictions, but only in natural form – fruits, vegetables, and juices. The content of food components in the diet, when converted per 1 kilogram of body weight, should correspond to the following data: proteins – 2.4–2.5 grams; fats – 2.0–2.3 grams; carbohydrates – 10.0–11.0 grams. The food we consume can be broken down into the following groups: 1. Meat, fish, eggs. 2. Dairy products. 3. Cereal products (groats, porridges, bread). 4. Vegetables and fruits. Each of them contains proteins, fats, and carbohydrates in different proportions.

Vitamins must mandatory be contained in food. Their deficiency or total absence leads to severe consequences. Vitamins cannot be synthesized in the body from other substances. Usually, the body's requirements for vitamins are met through a full-fledged diet (with the exception of early spring, when the prophylactic intake of multivitamin dragees is recommended). During intense physical loads, accelerated breakdown and excretion of vitamins from the body take place. The requirement for them increases.

Therefore, athletes, especially during periods of developing loads, require the intake of vitamin preparations. It is better to take multivitamins: Aerovit, Complivit, Glutamevit, Undevit, Decamevit, Oligovit, etc. For the assimilation of proteins and the building of muscle tissue, vitamins B6 (beans, soy, meat products), B12 (beef liver, kidneys, fish, milk, cheese), and Bc (liver, kidneys, yeast, and vegetables) are particularly important. Mineral substances are inorganic substances that activate the metabolic processes of the body – water-salt and acid-base.

The main necessary mineral substances and compounds are: calcium – contained in milk and dairy products; phosphorus – present in fish, bread, beans, peas, oatmeal, pearl barley, and barley groats, as well as in cheese; magnesium – in bread and cereal products; sodium (the requirement for it is small – about 1 gram per day); chlorine – obtained with bread and when salting food with table salt; potassium – in potatoes, apples, and grapes; iron – in liver, kidneys, and legumes; iodine – in marine fish, cod liver, and sea kale. In order for an athlete to fully develop their physical qualities, a balance of mineral substances must constantly be maintained in the body.

Water is vitally important for the human body: being its main constituent part, it participates in various biochemical processes. When practicing athleticism, one should not restrict water consumption, because the muscular system consists of 67–70% water and only 18–25% fat.

Restricting water intake leads to a deterioration in the athlete's physical capacity.

Safety Regulations for Athletic Gymnastics Classes:

1. At the beginning of each workout, conduct a general and special warm-up, preparing muscles for high loads.
2. Do not get distracted when performing strength exercises.
3. Before lifting large weights, study the technique of proper movement execution in this exercise.
4. Apply the correct movement technique. Avoid straining or holding your breath excessively.
5. Finish strength exercises with a straight back in order to prevent spinal injury.
6. In the initial period of strength training, increase loads on the wrist, elbow, ankle, and knee joints slowly and gradually.
7. Exclude from training exercises during the execution of which pain occurs.
8. Observe personal hygiene rules to prevent skin damage on the palms.
9. After a workout, perform various activities for rapid recovery.
10. Ensure that strength training equipment is in good working order, and maintain order, safety rules, and regulations in the strength training hall.

Questions and Tasks:

- Preparatory Part: GDE, flexibility exercises.
- Main Part: Master the technique of performing basic barbell exercises used for strength training. Study the technique of Squats. Barbell back squat. Half-squat. Repetition of standard exercise routines. Characteristics of arm muscles. Demonstration and learning of basic exercises for the development of the listed groups. Select the weight of the equipment and learn the technique of movements and exercises. Learning basic exercises with dumbbells and kettlebells.
- Concluding Part: Relaxation exercises, self-massage, analysis of students' learning activities.
- Assignments: Correction of back muscle development. Proper position of the back when performing exercises with weights; in the initial period of strength training, increase loads gradually, study the technique of correct exercise execution before applying heavy weights.

Control Questions

1. The essence of the concept of general physical training.
2. The impact of running sessions on the student's body.
3. The impact of gymnastics classes on the student's body.
4. Physical quality – strength and the methodology of its development.
5. Physical quality – flexibility and the methodology of its development.
6. Physical quality – agility and the methodology of its development. Coordination abilities.
7. Physical quality – endurance and the methodology of its development.
8. Physical quality – speed and the methodology of its development. Speed-strength abilities.
9. Jumping as a way of human movement and a type of sports motor actions.
10. Fundamentals of athletic gymnastics training.
11. Hygiene during athletic gymnastics classes.
12. What is the positive effect of strength training on the human body?
13. The body as a single biological system. Hypodynamia and hypokinesia, their impact on the body.
14. Morphological and main physiological functions of the body. Patterns of their improvement under the influence of targeted physical load.

List of Recommended Literature

Main Literature

1. Zenkova, T. A. Professionally Applied Physical Culture of Students [Electronic resource] / Zenkova T. A. : textbook. - 2nd ed., enlarged. - Rostov-on-Don : RSTU, 2020. - 152 p. - Approved by the educational and methodological council of the university. - ISBN 978-5-88814-921-8
2. Physical Culture and Sports: a textbook for undergraduate and specialist students in all fields of study implemented by MGSU / V. A. Nikishkin, N. N. Bumarskova, S. I. Kramskoy [et al.]. - Physical Culture and Sports, 2026-08-04. - Electron. data (1 file). - Moscow : MISI-MGSU, EBS ASV, 2021. - 380 p. - electronic. - The book is in the premium version of EBS IPR BOOKS. - ISBN 978-5-7264-2861-1

Additional Literature

1. Athletic Gymnastics. Powerlifting. Features of organizing classes in a higher education institution [Electronic resource] / Vaseltsova I. A., Belov D. O., Brodetsky A. B., Mostovaya N. V., Averyasova Yu. O. : textbook. - Samara: SamGUPS, 2019. - 186 p., unlimited copies
2. Grishina, Yu. I. General Physical Training. To Know and Be Able to: [textbook for students of higher educational institutions] / Yu. I. Grishina. - Rostov-on-Don: Phoenix, 2016. - 250 p.: ill. - (Higher Education). - Endorsement: Appr. UMO. - Bibliogr.: p. 244-245.
3. Grishina, Yu. I. Student's Physical Culture: textbook: [for students of higher education institutions for the discipline Physical Culture] / Yu. I. Grishina. – Rostov-on-Don: Phoenix, 2019. – 284 p.: ill. – (Higher Education). – Endorsement: Rec. NMS. – App.: p. 271-277. – Bibliogr.: p. 269-270. – ISBN 978-5-222-31286-5
4. Nebytova L.A. Physical Culture: Textbook (Course of Lectures)./ L.A. Nebytova, M.V. Katrenko, N.I. Sokolova Stavropol: NCFU, 2017. – 336 p.
5. Sapozhnikova, O.V. Fitness [Electronic resource]: textbook / O.V. Sapozhnikova. - Fitness, 2022-08-31. - Yekaterinburg: Ural Federal University, EBS ASV, 2015. - 144 p.
6. Elective Courses in Physical Culture and Sports: textbook (practicum): / Ministry of Science and Higher Education of the Russian Federation, Federal State Autonomous Educational Institution of Higher Education North-Caucasus Federal University; compilers: M.V. Katrenko, D.I. Savin. - Stavropol: NCFU, 2020. - 152 p. : ill.

Methodological Literature

1. Methodological recommendations for organizing independent work in Elective Disciplines (Modules) in Physical Culture and Sports, 2026 [Electronic version].
2. Methodological instructions for performing practical work in Elective Disciplines (Modules) in Physical Culture and Sports, 2026 [Electronic version].

Internet Resources

1. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
2. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
3. <http://www.fizkulturvshkole.ru/default.htm> Journal Physical Culture at School
4. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture

List of Information Technologies Used in the Discipline, Including software and Information Reference Systems:

Not provided

Information Reference Systems

Information reference and information legal systems used in studying the discipline:

1. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture
2. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
3. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
4. Professional database of Rosstat // Access mode:
http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/databases/

Software: Special software is not required.

Material and Technical Supplies for the Discipline

- gym/strength training hall;
- open sports ground;
- equipment and inventory: treadmills, dumbbells, barbells, exercise machines (selectors/benches), body bars, jump ropes, fitness mats, mats, medicine balls, hoops, gymnastic sticks, etc.

SEMESTER 6

DEVELOPMENT OF PHYSICAL AND MORPHOFUNCTIONAL ABILITIES OF THE BODY BY MEANS OF BASIC TYPES OF PHYSICAL CULTURE, SPORTS, AND HEALTH-PROMOTING ACTIVITIES

Practical Classes 1-3

Learning complexes of exercises for general and special physical training. Discussion: Means and methods of special physical training in the chosen type of physical culture and sports activity.

Aim: To study the technique of performing basic barbell exercises used for strength training. Pulls/Deadlifts: Straight-leg barbell deadlift (stiff-leg deadlift). Barbell deadlift standing on a platform/deficit. Standard exercise routines. To shape an understanding of the methodological directions of strength ability development (complex training).

Knowledge, skills, and competencies (or parts thereof) acquired by the student as a result of mastering the topic.

Planned learning outcomes for the discipline (module) characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-preserving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental loads to ensure work capacity in professional activities.
- Maintains the required level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

The main methodological directions of strength training are based on the physiological patterns of physical education. An increase in strength occurs when the training process creates maximum muscular tension, which can be achieved in the following ways: 1) overcoming submaximal weights (resistances) with the maximum number of repetitions; 2) maximum increase in external resistance (in dynamic or static modes); 3) overcoming resistance at maximum speed. The value of resistance in strength training is usually dosed according to the following criteria: as a percentage of the maximum weight; by the difference from the maximum weight (for example, 10-15 kg less than the limit weight); by the number of possible repetitions of the exercise in one set.

In the first methodological variant, the use of submaximal weights with the maximum number of repetitions, maximum muscular tension is achieved in the last repetitions, when

working to failure against the background of pronounced fatigue. In energy terms, such work is inefficient, but it has a number of significant advantages if the classes aim to develop strength endurance or are conducted mainly with a health-promoting focus. Exercises with submaximal weights provide greater opportunities to control movement technique. This is of particular importance for beginners. Moreover, in individuals who have not previously engaged in strength exercises, limiting weights makes it possible to avoid injuries. It is also important that at first, the effectiveness of strength development is almost independent of the magnitude of resistance. However, with an increase in the number of sessions, the advantage of maximum weights becomes obvious. In the training of qualified athletes, methods based on repeatedly repeated submaximal weights are used in strength training mainly as additional ones.

The second methodological variant – the use of maximum and near-maximum weights – is the main one in the training of qualified athletes. Training with maximum weight causes significant emotional fatigue and is associated with insufficient load volumes. Therefore, workouts are conducted mainly with near-maximum weights, which are overcome without significant emotional arousal (weight is 10-15 percent less than the maximum). It is desirable to use a weight greater than the training limit once every 7-14 days. Isometric (static) exercises can be considered as a specific option for applying maximum strength tensions. They are used as an additional tool in the process of nurturing strength capabilities. The effectiveness of these exercises is less than that of dynamic ones, and it is recommended to perform them in the form of maximum repetitions within 5-10 seconds each.

When performing strength exercises, several basic rules should be observed:

1. Allowing tension of the expiratory musculature with a closed glottis, which increases strength indicators, is permissible only when necessary, that is, during short-term maximum tensions. Do not hold your breath when the condition does not require it (for example, during repeated execution of exercises with low tension);
2. Beginners should not be given a large volume of exercises with maximum and near-maximum tensions (weights);
3. One should not take a maximum breath before performing strength exercises, as this will needlessly increase intrathoracic pressure and exacerbate the unfavorable shifts observed during straining;
4. Since almost the same strength indicators are achieved during exhalation with a narrowed glottis as during straining, it is possible to make a maximum effort on exhalation without holding the breath, but through slightly compressed lips;
5. Beginners should inhale and exhale in the middle of the exercise, in particular, at the moment when the barbell is on the chest;

6. Considering that shock states occur only during a slow press, it is necessary to achieve rapid lifting of even maximum weight;

7. For each movement, there are body positions in which the greatest and least values of strength are manifested. During flexion at the elbow joint, maximum strength is achieved at an angle of 90 degrees, during extension at the elbow and knee joint, the optimal angle is about 120 degrees, and when measuring deadlift strength – 155 degrees.

In the system of training sessions for strength development, it is necessary to use a combination of exercises of general and relatively local action. There are over 500 muscles in the human body. The following five groups are classified as the most important, significantly affecting a person's total strength: 1) extensors of the spinal column; 2) flexors of the spinal column and muscles of the hip joint area; 3) leg extensors; 4) leg flexors; 5) pectoralis major muscle. Strength exercises should preferably be used at the beginning of the main part of the session against the background of a fresh, optimal state of the body. When using significant weights (50 percent of maximum and higher), rest intervals between repetitions are mainly 2-3 minutes, near-maximum – 4-6 minutes, maximum – 10-15 minutes. Before approaching the main training weight, several sets are done with small weights. Such preliminary work with weights serves the purpose of a warm-up. In cases where the sessions include exercises with both near-maximum and submaximal weights to failure, the former should be performed first.

Questions and Tasks:

- Preparatory Part: Slow running, warm-up (GDE, flexibility exercises, bends, lunges).
- Main Part: Study the technique of performing basic barbell exercises used for strength training. Pulls/Deadlifts: Straight-leg barbell deadlift (stiff-leg deadlift). Barbell deadlift standing on a platform/deficit. Standard exercise routines. Learn and improve exercises without weights and objects, related to overcoming the resistance of one's own body weight; exercises with gymnastic objects of a certain design and weight (balls, body bars, shock absorbers, etc.); exercises with standard weights (dumbbells, kettlebells, barbells); exercises with a partner (in pairs, triplets); exercises on training machines and special devices. Development of strength endurance. Learn a routine with a barbell, select the weight of the equipment and learn movement technique.
- Concluding Part: Relaxation and flexibility exercises. Analysis of students' learning activities.
- Assignments: Correction of back muscle development. Proper position of the back when performing exercises with weights; in the initial period of strength training, increase loads gradually, study the technique of correct exercise execution before applying heavy weights.

Practical Classes 4-6

Learning Complex Exercises.

Aim: Complex of exercises for back muscles using one's own weight. Wide-grip pull-ups behind the neck. Wide-grip pull-ups to the chest. Barbell pullover, arms bent. Standard exercise routines. To shape an understanding of circuit training and its varieties. Athletic gymnastics as an effective means of body weight regulation.

Knowledge, skills, and competencies (or parts thereof) acquired by the student as a result of mastering the topic.

Planned learning outcomes for the discipline (module) characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-preserving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental loads to ensure work capacity in professional activities.
- Maintains the required level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

In physical culture classes, circuit training acquires special significance, as it allows a large number of practitioners to exercise simultaneously and independently, using the maximum amount of inventory and equipment. Depending on the tasks set, circuit training can be Planned in the preparatory, main, or concluding part of the session. Exercises aimed at the primary development of the muscles of the shoulder girdle, arms, abdomen, and back, increasing joint mobility, and strengthening the entire musculature are selected for circuit training complexes. The number of exercises ranges from 10 to 15 stations. When selecting complexes, it is necessary to observe basic didactic principles, that is, to go from simple to complex, to alternate the active rest of some muscle groups with the rest of others. After a heavy exercise, lighter ones should be selected, giving an opportunity to restore strength and calm breathing.

The number of stations with strength exercises should be gradually increased. An approximate scheme for organizing circuit training is as follows. In the first session, practitioners get acquainted with the organizational form of performing exercises at stations, the sequence of execution, transitions, recording in registration cards, counts, etc. In the second session, they get acquainted with the definition of MT (maximum test) for performing exercises at each station, with the determination of further load according to the MT/2 or MT/4 scheme depending on the physical fitness of the group. In sessions 3–6, they perform MT/4 + 1 or MT/2 + 1, followed by an increase in each session by one or more repetitions. In session 7, a new MT is determined with

a repetition of the previous cycle. The most effective strength exercises are those that can be performed no more than 12-15 times in a row at one circuit training station during 30 seconds of work. It is recommended to periodically change complexes of strength exercises. They change once every 2–6 weeks.

Athletic gymnastics as an effective means of body weight regulation. Athletic gymnastics perfectly helps in accumulating muscle tissue and reducing fat deposits. Unlike adipose tissue, muscle tissue is metabolically active and has high energy requirements for maintenance and repair. Building muscle tissue corresponds to an acceleration of metabolism. Athletic gymnastics allows one to literally rebuild the body and shed at least 1 kg of fat tissue per week – and there is no health risk, as is the case with taking dietary drugs or practicing therapeutic fasting.

Questions and Tasks:

- Preparatory Part: GDE, flexibility exercises.
- Main Part: Complex of exercises for back muscles using one's own weight. Wide-grip pull-ups behind the neck. Wide-grip pull-ups to the chest. Barbell pullover, arms bent. Standard exercise routines. Exercises on training apparatuses.
- Concluding Part: Breathing exercises, self-massage.
- Assignments: Correction of back muscle development. Proper position of the back when performing exercises with weights; in the initial period of strength training, increase loads gradually, study the technique of correct exercise execution before applying heavy weights.

Practical Classes 7-9

Learning Complex Exercises.

Aim: To study the technique of performing exercises for chest muscles. Dumbbell bench press on a flat bench. Dumbbell bench press on an incline bench. Dumbbell flyes on a flat bench. Dumbbell flyes on an incline bench. Standard exercise routines. To form a scientific understanding of overstrain and the reasons for its occurrence.

Knowledge, skills, and competencies (or parts thereof) acquired by the student as a result of mastering the topic.

Planned learning outcomes for the discipline (module) characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-preserving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental loads to ensure work capacity in professional activities.

- Maintains the required level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

Overstrain is a sharp deterioration in well-being due to a load that exceeds the athlete's level of fitness. Usually, this is the result of a single exposure to excessive work. With repeated overloads, overstrain can become chronic and lead to diseases of various organs and systems. Overtraining is an illness arising in connection with the overstrain of the central nervous system in a trained athlete. A self-control diary, in which heart rate, duration and quality of sleep, and appetite are recorded daily, will help avoid these phenomena. You should be alerted by a decrease in sports results, irritability, poor sleep, weakened appetite, and unplanned body weight loss. When these signs of the initial stage of overtraining appear, it is necessary to identify their causes, which may be: prolonged use of monotonous intense exercises during under-recovery of strength and insufficient rest, conflict situations during intense training, infectious diseases, routine violations, smoking and alcohol consumption, large weight loss.

Preventing any further progress of pathological conditions will be helped by a reasonable combination of weight training with other forms of physical activities, especially those that affect the body in a different way than strength ones:

1. It is important to include in your routine work in aerobic types of physical activity associated with increased oxygen consumption, for example, slow running, jump rope, cycling, swimming, skiing, etc. The physiological justification for this requirement is as follows: a) aerobic work develops the lungs, stimulates the heart and pulmonary circulation, which is important for optimal health and general endurance; b) increased oxygen flow in the body and its participation in energy processes help burn faster in the form of energy under-oxidized breakdown products formed in muscles and bloodstream during strength work and slowing down recovery; c) during aerobic work, the body switches to an accelerated metabolic rate, burning fatty acids as the main source of energy, thus releasing fat deposits and improving muscle definition. It is important that aerobic work, regardless of its type, lasts at least 25-30 minutes at a heart rate calculated by the formula: $HR = 0.8 \times (220 - \text{age})$. Include such work during the period of gaining strength and muscle mass 1-2 times a week, and during periods of getting rid of fat deposits (for muscle definition) – up to 3-4 times a week.
2. Achieving progress in athletic gymnastics is unthinkable without high-quality recovery of the body after classes – these are physiotherapeutic procedures (bath, sauna, bathhouse, massage, light/electrotherapy). These procedures are used to relieve general body fatigue, to reduce muscle fatigue, activate the functions of the nervous and cardiovascular systems, increase the body's

resistance to adverse environmental influences, and intensely affect various physiological functions. Various baths (pine, sodium chloride) have a soothing effect on the body. Various types of massage will help relieve localized tension, normalize muscle tone, and provide an analgesic effect. The body's immune forces are stimulated by general ultraviolet irradiation and oxygen cocktails.

3. In rare cases of extreme overtraining, it is necessary to temporarily abandon weights and engage only in general health-promoting types of physical culture.

Let us recall that training and recovery are an interconnected process. Recovery of strength implies not only returning body functions to the pre-work level, but also transferring the life support system to a new, higher level of energy capabilities, called supercompensation (over-recovery). Only against the background of supercompensation is the growth of fitness and increase in working capacity possible, while an increase in strength and muscle volumes is particularly important for athletic gymnastics.

Questions and Tasks:

- Preparatory Part: GDE, flexibility exercises.
- Main Part: Study the technique of performing exercises for chest muscles. Dumbbell bench press on a flat bench. Dumbbell bench press on an incline bench. Dumbbell flyes on a flat bench. Dumbbell flyes on an incline bench. Standard exercise routines. Exercises with standard weights (dumbbells, kettlebells, barbells).
- Concluding Part: Breathing exercises, self-massage.
- Assignments: Correction of back muscle development. Proper position of the back when performing exercises with weights; in the initial period of strength training, increase loads gradually, study the technique of correct exercise execution before applying heavy weights.

Practical Classes 10-12

Learning Complex Exercises.

Aim: To study the technique of performing athletic gymnastics exercises for thigh and calf muscles. Barbell half-squats. Leg extensions on a machine. Leg curls in a prone position (on a machine). Lunges. Reverse lunges. Standing calf raises with dumbbells or a barbell. Standard exercise routines. To introduce domestic methodological systems of strength development and body beauty construction, corrective gymnastics.

Knowledge, skills, and competencies (or parts thereof) acquired by the student as a result of mastering the topic.

Planned learning outcomes for the discipline (module) characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-preserving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental loads to ensure work capacity in professional activities.
- Maintains the required level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

1. Kettlebell rhythm-athleticism – a domestic invention. Strength aerobics for men, combining the grace of rhythmic gymnastics and rational elements of the kettlebell methodology (developed at VNII FK).
2. Kettlebell lifting – the system of Yu. Romashin, a famous coach who prepares masters of sports from beginners in two years. He himself believes that it is not only about the system, but also about a person's strong desire and commitment.
3. Kettlebell lifting (competition program) – the system of M. Starodubtsev (alternating press of two kettlebells, juggling one kettlebell, clean and jerk of two kettlebells; alternating press of two kettlebells, juggling one kettlebell with throwing and catching). Exercises are performed depending on the weight category with 24 and 32 kg implements.
4. The increased interest of the peoples inhabiting Russia in their own culture is an incentive for the revival of national sports in a modern form (for example, stone and kettlebell throwing in Dagestan, etc.).
5. The system of A.K. Anokhin (willpower gymnastics). The essence of gymnastics is that you develop strength by tensing muscles at your own will without external load. For example, you rise very, very slowly from a squat position and maximally tense the leg muscles, as if you have a very heavy load on your shoulders. After you stand up, you lower yourself just as slowly and with the same maximum effort to the starting position. This is how you train the muscles of the anterior and posterior surface of the thigh, performing the exercise in a static mode but during movement.
6. The system of V.G. Fokhtin is based on the principle of self-resistance. You use limbs as levers, tensing them in a static mode at different angles. For example, you want to train the biceps of your right hand. Setting it at an angle (or another), you try to flex it, and counteract this movement with your left hand. As a result, the arm muscles experience tension with the force you are currently capable of.
7. The system of Yu.A. Peganov is a combination of isometric exercises and stretching.
8. The system of V.I. Dikul is a system of exercises with weights.
9. The training system of V.F. Regulyan – competitive athleticism (posing and powerlifting).

Corrective Gymnastics. Many young men and women of normal height and weight are often dissatisfied with the shapes of individual parts of their own body. There arises a need for their correction. And this is possible. It is possible with the selective application of special exercises developing individual muscle groups, changing the general shape of body parts. Methodologies and existing methods for developing practically every muscle have already been developed. The greatest experience of such work has been accumulated in weightlifting, athletic and artistic gymnastics, and shaping. It is important to choose an optimal training system with the help of a teacher, which relies on knowledge of anatomy, physiology, and biomechanics of human movements. In addition, one must get acquainted with and master the fundamentals of training independently.

Questions and Tasks:

- Preparatory Part: GDE, flexibility exercises.
- Main Part: Study the technique of performing athletic gymnastics exercises for thigh and calf muscles. Barbell half-squats. Leg extensions on a machine. Leg curls in a prone position (on a machine). Lunges. Reverse lunges. Standing calf raises with dumbbells or a barbell. Standard exercise routines.
- Concluding Part: Relaxation exercises, self-massage, analysis of students' learning activities.
- Assignments: Correction of back muscle development. Proper position of the back when performing exercises with weights; in the initial period of strength training, increase loads gradually, study the technique of correct exercise execution before applying heavy weights.

Practical Classes 13-16

Learning Complex Exercises.

Aim: To learn an exercise complex for the shoulder girdle using one's own weight. Technique of performing exercises for the muscles of the upper shoulder girdle. Shoulder press machine for deltoid muscles. Seated dumbbell shoulder press. Lateral dumbbell raises upward. Cable lateral raises on a block machine. Standard exercise routines. To disclose the methodology of shock training in athletic gymnastics.

Knowledge, skills, and competencies (or parts thereof) acquired by the student as a result of mastering the topic.

Planned learning outcomes for the discipline (module) characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-preserving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.

- Rationally combines physical and mental loads to ensure work capacity in professional activities.
- Maintains the required level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

Exercises for muscles that respond poorly to development are combined with working out antagonist muscles, whose development is more active. For example, if the development of chest muscles lags behind, having achieved a powerful blood flow to the torso area due to the work of the latissimus dorsi muscles (antagonists in relation to the chest), exercises for the chest and back muscles are combined. Exercises can be performed sequentially or by the method of supersets/combined sets (back-chest). Moreover, if in the first exercise a smaller weight of the implement and a larger number of repetitions are used, then in the second – a relatively larger weight and a more powerful load with a smaller number of repetitions in series. A similar effect is acceptable on arm muscles. If the triceps lags behind in development, then first you need to work on the biceps, and vice versa.

Questions and Tasks:

- Preparatory Part: Slow running, warm-up (GDE, flexibility exercises, bends, lunges).
- Main Part: Learn an exercise complex for the shoulder girdle using one's own weight. Technique of performing exercises for the muscles of the upper shoulder girdle. Shoulder press machine for deltoid muscles. Seated dumbbell shoulder press. Lateral dumbbell raises upward. Cable lateral raises on a block machine. Standard exercise routines.
- Concluding Part: Relaxation and flexibility exercises. Analysis of students' learning activities.

Control Questions

1. The essence of the concept of general physical training.
2. The impact of running sessions on the student's body.
3. The impact of gymnastics classes on the student's body.
4. Physical quality – strength and the methodology of its development.
5. Physical quality – flexibility and the methodology of its development.
6. Physical quality – agility and the methodology of its development. Coordination abilities.
7. Physical quality – endurance and the methodology of its development.
8. Physical quality – speed and the methodology of its development. Speed-strength abilities.
9. Jumping as a way of human movement and a type of sports motor actions.
10. Fundamentals of athletic gymnastics training.

11. Hygiene during athletic gymnastics classes.
12. What is the positive effect of strength training on the human body?

List of Recommended Literature

Main Literature

3. Zenkova, T. A. Professionally Applied Physical Culture of Students [Electronic resource] / Zenkova T. A. : textbook. - 2nd ed., enlarged. - Rostov-on-Don : RSTU, 2020. - 152 p. - Approved by the educational and methodological council of the university. - ISBN 978-5-88814-921-8
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4. Methodological instructions for performing practical work in Elective Disciplines (Modules) in Physical Culture and Sports, 2026 [Electronic version].

Internet Resources

5. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
6. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
7. <http://www.fizkulturavshkole.ru/default.htm> Journal Physical Culture at School
8. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture

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6. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
7. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
8. Professional database of Rosstat // Access mode:
http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/databases/

Software: Special software is not required.

Material and Technical Supplies for the Discipline

- gym/strength training hall;
 - open sports ground;
- equipment and inventory: treadmills, dumbbells, barbells, exercise machines (selectors/benches), body bars, jump ropes, fitness mats, mats, medicine balls, hoops, gymnastic sticks, etc.

SEMESTER 7

MAINTAINING THE REQUIRED LEVEL OF PHYSICAL FITNESS TO ENSURE

FULL-FLEDGED SOCIAL AND PROFESSIONAL ACTIVITIES

Practical Classes 1-4

Learning complexes of exercises for general and special physical training. Discussion: Means and methods of special physical training in the chosen type of physical culture and sports activity.

Aim: To study the technique of performing basic barbell exercises used for strength training. Pulls/Deadlifts: Straight-leg barbell deadlift (stiff-leg deadlift). Barbell deadlift standing on a platform/deficit. Standard exercise routines. To shape an understanding of the methodological directions of strength ability development (complex training).

Knowledge, skills, and competencies (or parts thereof) acquired by the student as a result of mastering the topic.

- Planned learning outcomes for the discipline (module) characterizing the stages of competency and indicator development:
 - Demonstrates knowledge of health-preserving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
 - Rationally combines physical and mental loads to ensure work capacity in professional activities.
 - Maintains the required level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

The main methodological directions of strength training are based on the physiological patterns of physical education. An increase in strength occurs when the training process creates maximum muscular tension, which can be achieved in the following ways: 1) overcoming submaximal weights (resistances) with the maximum number of repetitions; 2) maximum increase in external resistance (in dynamic or static modes); 3) overcoming resistance at maximum speed. The value of resistance in strength training is usually dosed according to the following criteria: as a percentage of the maximum weight; by the difference from the maximum weight (for example, 10-15 kg less than the limit weight); by the number of possible repetitions of the exercise in one set.

In the first methodological variant, the use of submaximal weights with the maximum number of repetitions, maximum muscular tension is achieved in the last repetitions, when working to failure against the background of pronounced fatigue. In energy terms, such work is inefficient, but it has a number of significant advantages if the classes aim to develop strength

endurance or are conducted mainly with a health-promoting focus. Exercises with submaximal weights provide greater opportunities to control movement technique. This is of particular importance for beginners. Moreover, in individuals who have not previously engaged in strength exercises, limiting weights makes it possible to avoid injuries. It is also important that at first, the effectiveness of strength development is almost independent of the magnitude of resistance. However, with an increase in the number of sessions, the advantage of maximum weights becomes obvious. In the training of qualified athletes, methods based on repeatedly repeated submaximal weights are used in strength training mainly as additional ones.

The second methodological variant – the use of maximum and near-maximum weights – is the main one in the training of qualified athletes. Training with maximum weight causes significant emotional fatigue and is associated with insufficient load volumes. Therefore, workouts are conducted mainly with near-maximum weights, which are overcome without significant emotional arousal (weight is 10-15 percent less than the maximum). It is desirable to use a weight greater than the training limit once every 7-14 days. Isometric (static) exercises can be considered as a specific option for applying maximum strength tensions. They are used as an additional tool in the process of nurturing strength capabilities. The effectiveness of these exercises is less than that of dynamic ones, and it is recommended to perform them in the form of maximum repetitions within 5-10 seconds each.

When performing strength exercises, several basic rules should be observed:

1. Allowing tension of the expiratory musculature with a closed glottis, which increases strength indicators, is permissible only when necessary, that is, during short-term maximum tensions. Do not hold your breath when the condition does not require it (for example, during repeated execution of exercises with low tension);
2. Beginners should not be given a large volume of exercises with maximum and near-maximum tensions (weights);
3. One should not take a maximum breath before performing strength exercises, as this will needlessly increase intrathoracic pressure and exacerbate the unfavorable shifts observed during straining;
4. Since almost the same strength indicators are achieved during exhalation with a narrowed glottis as during straining, it is possible to make a maximum effort on exhalation without holding the breath, but through slightly compressed lips;
5. Beginners should inhale and exhale in the middle of the exercise, in particular, at the moment when the barbell is on the chest;
6. Considering that shock states occur only during a slow press, it is necessary to achieve rapid lifting of even maximum weight;

7. For each movement, there are body positions in which the greatest and least values of strength are manifested. During flexion at the elbow joint, maximum strength is achieved at an angle of 90 degrees, during extension at the elbow and knee joint, the optimal angle is about 120 degrees, and when measuring deadlift strength – 155 degrees.

In the system of training sessions for strength development, it is necessary to use a combination of exercises of general and relatively local action. There are over 500 muscles in the human body. The following five groups are classified as the most important, significantly affecting a person's total strength: 1) extensors of the spinal column; 2) flexors of the spinal column and muscles of the hip joint area; 3) leg extensors; 4) leg flexors; 5) pectoralis major muscle. Strength exercises should preferably be used at the beginning of the main part of the session against the background of a fresh, optimal state of the body. When using significant weights (50 percent of maximum and higher), rest intervals between repetitions are mainly 2-3 minutes, near-maximum – 4-6 minutes, maximum – 10-15 minutes. Before approaching the main training weight, several sets are done with small weights. Such preliminary work with weights serves the purpose of a warm-up. In cases where the sessions include exercises with both near-maximum and submaximal weights to failure, the former should be performed first.

Questions and Tasks:

- Preparatory Part: Slow running, warm-up (GDE, flexibility exercises, bends, lunges).
- Main Part: Study the technique of performing basic barbell exercises used for strength training. Pulls/Deadlifts: Straight-leg barbell deadlift (stiff-leg deadlift). Barbell deadlift standing on a platform/deficit. Standard exercise routines. Learn and improve exercises without weights and objects, related to overcoming the resistance of one's own body weight; exercises with gymnastic objects of a certain design and weight (balls, body bars, shock absorbers, etc.); exercises with standard weights (dumbbells, kettlebells, barbells); exercises with a partner (in pairs, triplets); exercises on training machines and special devices. Development of strength endurance. Learn a routine with a barbell, select the weight of the equipment and learn movement technique.
- Concluding Part: Relaxation and flexibility exercises. Analysis of students' learning activities.
- Assignments: Correction of back muscle development. Proper position of the back when performing exercises with weights; in the initial period of strength training, increase loads gradually, study the technique of correct exercise execution before applying heavy weights.

Questions and Tasks:

- Preparatory Part: Slow running, warm-up (GDE, flexibility exercises, bends, lunges).

- Main Part: Study the technique of performing basic barbell exercises used for strength training. Pulls/Deadlifts: Straight-leg barbell deadlift (stiff-leg deadlift). Barbell deadlift standing on a platform/deficit. Standard exercise routines. Learn and improve exercises without weights and objects, related to overcoming the resistance of one's own body weight; exercises with gymnastic objects of a certain design and weight (balls, body bars, shock absorbers, etc.); exercises with standard weights (dumbbells, kettlebells, barbells); exercises with a partner (in pairs, triplets); exercises on training machines and special devices. Development of strength endurance. Learn a routine with a barbell, select the weight of the equipment and learn movement technique.
- Concluding Part: Relaxation and flexibility exercises. Analysis of students' learning activities.
- Assignments: Correction of back muscle development. Proper position of the back when performing exercises with weights; in the initial period of strength training, increase loads gradually, study the technique of correct exercise execution before applying heavy weights.

Practical Classes 5-8

Learning Complex Exercises.

Aim: Complex of exercises for back muscles using one's own weight. Wide-grip pull-ups behind the neck. Wide-grip pull-ups to the chest. Barbell pullover, arms bent. Standard exercise routines. To shape an understanding of circuit training and its varieties. Athletic gymnastics as an effective means of body weight regulation.

Knowledge, skills, and competencies (or parts thereof) acquired by the student as a result of mastering the topic.

Planned learning outcomes for the discipline (module) characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-preserving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental loads to ensure work capacity in professional activities.
- Maintains the required level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

In physical culture classes, circuit training acquires special significance, as it allows a large number of practitioners to exercise simultaneously and independently, using the maximum amount of inventory and equipment. Depending on the tasks set, circuit training can be Planned in the preparatory, main, or concluding part of the session. Exercises aimed at the primary development of the muscles of the shoulder girdle, arms, abdomen, and back, increasing joint mobility, and strengthening the entire musculature are selected for circuit training complexes. The number of exercises ranges from 10 to 15 stations. When selecting complexes, it is necessary to observe basic didactic principles, that is, to go from simple to complex, to alternate the active rest of some muscle groups with the rest of others. After a heavy exercise, lighter ones should be selected, giving an opportunity to restore strength and calm breathing.

The number of stations with strength exercises should be gradually increased. An approximate scheme for organizing circuit training is as follows. In the first session, practitioners get acquainted with the organizational form of performing exercises at stations, the sequence of execution, transitions, recording in registration cards, counts, etc. In the second session, they get acquainted with the definition of MT (maximum test) for performing exercises at each station, with the determination of further load according to the MT/2 or MT/4 scheme depending on the physical fitness of the group. In sessions 3–6, they perform MT/4 + 1 or MT/2 + 1, followed by an increase in each session by one or more repetitions. In session 7, a new MT is determined with a repetition of the previous cycle. The most effective strength exercises are those that can be performed no more than 12-15 times in a row at one circuit training station during 30 seconds of work. It is recommended to periodically change complexes of strength exercises. They change once every 2–6 weeks.

Athletic gymnastics as an effective means of body weight regulation. Athletic gymnastics perfectly helps in accumulating muscle tissue and reducing fat deposits. Unlike adipose tissue, muscle tissue is metabolically active and has high energy requirements for maintenance and repair. Building muscle tissue corresponds to an acceleration of metabolism. Athletic gymnastics allows one to literally rebuild the body and shed at least 1 kg of fat tissue per week – and there is no health risk, as is the case with taking dietary drugs or practicing therapeutic fasting.

Questions and Tasks:

- Preparatory Part: GDE, flexibility exercises.
- Main Part: Complex of exercises for back muscles using one's own weight. Wide-grip pull-ups behind the neck. Wide-grip pull-ups to the chest. Barbell pullover, arms bent. Standard exercise routines. Exercises on training apparatuses.
- Concluding Part: Breathing exercises, self-massage.

- Assignments: Correction of back muscle development. Proper position of the back when performing exercises with weights; in the initial period of strength training, increase loads gradually, study the technique of correct exercise execution before applying heavy weights.

Questions and Tasks:

- Preparatory Part: GDE, flexibility exercises.
- Main Part: Complex of exercises for back muscles using one's own weight. Wide-grip pull-ups behind the neck. Wide-grip pull-ups to the chest. Barbell pullover, arms bent. Standard exercise routines. Exercises on training apparatuses.
- Concluding Part: Breathing exercises, self-massage.
- Assignments: Correction of back muscle development. Proper position of the back when performing exercises with weights; in the initial period of strength training, increase loads gradually, study the technique of correct exercise execution before applying heavy weights.

Practical Classes 9-12

Learning Complex Exercises.

Aim: To study the technique of performing exercises for chest muscles. Dumbbell bench press on a flat bench. Dumbbell bench press on an incline bench. Dumbbell flyes on a flat bench. Dumbbell flyes on an incline bench. Standard exercise routines. To form a scientific understanding of overstrain and the reasons for its occurrence.

Knowledge, skills, and competencies (or parts thereof) acquired by the student as a result of mastering the topic.

Planned learning outcomes for the discipline (module) characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-preserving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental loads to ensure work capacity in professional activities.
- Maintains the required level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

Overstrain is a sharp deterioration in well-being due to a load that exceeds the athlete's level of fitness. Usually, this is the result of a single exposure to excessive work. With repeated overloads, overstrain can become chronic and lead to diseases of various organs and systems.

Overtraining is an illness arising in connection with the overstrain of the central nervous system in a trained athlete. A self-control diary, in which heart rate, duration and quality of sleep, and appetite are recorded daily, will help avoid these phenomena. You should be alerted by a decrease in sports results, irritability, poor sleep, weakened appetite, and unplanned body weight loss. When these signs of the initial stage of overtraining appear, it is necessary to identify their causes, which may be: prolonged use of monotonous intense exercises during under-recovery of strength and insufficient rest, conflict situations during intense training, infectious diseases, routine violations, smoking and alcohol consumption, large weight loss.

Preventing any further progress of pathological conditions will be helped by a reasonable combination of weight training with other forms of physical activities, especially those that affect the body in a different way than strength ones:

4. It is important to include in your routine work in aerobic types of physical activity associated with increased oxygen consumption, for example, slow running, jump rope, cycling, swimming, skiing, etc. The physiological justification for this requirement is as follows: a) aerobic work develops the lungs, stimulates the heart and pulmonary circulation, which is important for optimal health and general endurance; b) increased oxygen flow in the body and its participation in energy processes help burn faster in the form of energy under-oxidized breakdown products formed in muscles and bloodstream during strength work and slowing down recovery; c) during aerobic work, the body switches to an accelerated metabolic rate, burning fatty acids as the main source of energy, thus releasing fat deposits and improving muscle definition. It is important that aerobic work, regardless of its type, lasts at least 25-30 minutes at a heart rate calculated by the formula: $HR = 0.8 \times (220 - \text{age})$. Include such work during the period of gaining strength and muscle mass 1-2 times a week, and during periods of getting rid of fat deposits (for muscle definition) – up to 3-4 times a week.

5. Achieving progress in athletic gymnastics is unthinkable without high-quality recovery of the body after classes – these are physiotherapeutic procedures (bath, sauna, bathhouse, massage, light/electrotherapy). These procedures are used to relieve general body fatigue, to reduce muscle fatigue, activate the functions of the nervous and cardiovascular systems, increase the body's resistance to adverse environmental influences, and intensely affect various physiological functions. Various baths (pine, sodium chloride) have a soothing effect on the body. Various types of massage will help relieve localized tension, normalize muscle tone, and provide an analgesic effect. The body's immune forces are stimulated by general ultraviolet irradiation and oxygen cocktails.

6. In rare cases of extreme overtraining, it is necessary to temporarily abandon weights and engage only in general health-promoting types of physical culture.

Let us recall that training and recovery are an interconnected process. Recovery of strength implies not only returning body functions to the pre-work level, but also transferring the life support system to a new, higher level of energy capabilities, called supercompensation (over-recovery). Only against the background of supercompensation is the growth of fitness and increase in working capacity possible, while an increase in strength and muscle volumes is particularly important for athletic gymnastics.)

Questions and Tasks:

- Preparatory Part: GDE, flexibility exercises.
- Main Part: Study the technique of performing exercises for chest muscles. Dumbbell bench press on a flat bench. Dumbbell bench press on an incline bench. Dumbbell flyes on a flat bench. Dumbbell flyes on an incline bench. Standard exercise routines. Exercises with standard weights (dumbbells, kettlebells, barbells).
- Concluding Part: Breathing exercises, self-massage.
- Assignments: Correction of back muscle development. Proper position of the back when performing exercises with weights; in the initial period of strength training, increase loads gradually, study the technique of correct exercise execution before applying heavy weights.

Practical Classes 13-16

Learning Complex Exercises.

Aim: To study the technique of performing athletic gymnastics exercises for thigh and calf muscles. Barbell half-squats. Leg extensions on a machine. Leg curls in a prone position (on a machine). Lunges. Reverse lunges. Standing calf raises with dumbbells or a barbell. Standard exercise routines. To introduce domestic methodological systems of strength development and body beauty construction, corrective gymnastics.

Knowledge, skills, and competencies (or parts thereof) acquired by the student as a result of mastering the topic.

Planned learning outcomes for the discipline (module) characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-preserving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental loads to ensure work capacity in professional activities.

- Maintains the required level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

10. Kettlebell rhythm-athleticism – a domestic invention. Strength aerobics for men, combining the grace of rhythmic gymnastics and rational elements of the kettlebell methodology (developed at VNII FK).
11. Kettlebell lifting – the system of Yu. Romashin, a famous coach who prepares masters of sports from beginners in two years. He himself believes that it is not only about the system, but also about a person's strong desire and commitment.
12. Kettlebell lifting (competition program) – the system of M. Starodubtsev (alternating press of two kettlebells, juggling one kettlebell, clean and jerk of two kettlebells; alternating press of two kettlebells, juggling one kettlebell with throwing and catching). Exercises are performed depending on the weight category with 24 and 32 kg implements.
13. The increased interest of the peoples inhabiting Russia in their own culture is an incentive for the revival of national sports in a modern form (for example, stone and kettlebell throwing in Dagestan, etc.).
14. The system of A.K. Anokhin (willpower gymnastics). The essence of gymnastics is that you develop strength by tensing muscles at your own will without external load. For example, you rise very, very slowly from a squat position and maximally tense the leg muscles, as if you have a very heavy load on your shoulders. After you stand up, you lower yourself just as slowly and with the same maximum effort to the starting position. This is how you train the muscles of the anterior and posterior surface of the thigh, performing the exercise in a static mode but during movement.
15. The system of V.G. Fokhtin is based on the principle of self-resistance. You use limbs as levers, tensing them in a static mode at different angles. For example, you want to train the biceps of your right hand. Setting it at an angle (or another), you try to flex it, and counteract this movement with your left hand. As a result, the arm muscles experience tension with the force you are currently capable of.
16. The system of Yu.A. Peganov is a combination of isometric exercises and stretching.
17. The system of V.I. Dikul is a system of exercises with weights.
18. The training system of V.F. Regulyan – competitive athleticism (posing and powerlifting).

Corrective Gymnastics. Many young men and women of normal height and weight are often dissatisfied with the shapes of individual parts of their own body. There arises a need for their correction. And this is possible. It is possible with the selective application of special exercises developing individual muscle groups, changing the general shape of body parts. Methodologies and existing methods for developing practically every muscle have already been

developed. The greatest experience of such work has been accumulated in weightlifting, athletic and artistic gymnastics, and shaping. It is important to choose an optimal training system with the help of a teacher, which relies on knowledge of anatomy, physiology, and biomechanics of human movements. In addition, one must get acquainted with and master the fundamentals of training independently.

Questions and Tasks:

- Preparatory Part: GDE, flexibility exercises.
- Main Part: Study the technique of performing athletic gymnastics exercises for thigh and calf muscles. Barbell half-squats. Leg extensions on a machine. Leg curls in a prone position (on a machine). Lunges. Reverse lunges. Standing calf raises with dumbbells or a barbell. Standard exercise routines.
- Concluding Part: Relaxation exercises, self-massage, analysis of students' learning activities.
- Assignments: Correction of back muscle development. Proper position of the back when performing exercises with weights; in the initial period of strength training, increase loads gradually, study the technique of correct exercise execution before applying heavy weights.

Practical Classes 17-18

Learning Complex Exercises.

Aim: To learn an exercise complex for the shoulder girdle using one's own weight. Technique of performing exercises for the muscles of the upper shoulder girdle. Shoulder press machine for deltoid muscles. Seated dumbbell shoulder press. Lateral dumbbell raises upward. Cable lateral raises on a block machine. Standard exercise routines. To disclose the methodology of shock training in athletic gymnastics.

Knowledge, skills, and competencies (or parts thereof) acquired by the student as a result of mastering the topic.

Planned learning outcomes for the discipline (module) characterizing the stages of competency and indicator development:

- Demonstrates knowledge of health-preserving technologies and physiological characteristics of the body to ensure full-fledged social and professional activities.
- Rationally combines physical and mental loads to ensure work capacity in professional activities.
- Maintains the required level of physical fitness to ensure full-fledged social and professional activities.

Theoretical Part

Exercises for muscles that respond poorly to development are combined with working out antagonist muscles, whose development is more active. For example, if the development of chest muscles lags behind, having achieved a powerful blood flow to the torso area due to the work of the latissimus dorsi muscles (antagonists in relation to the chest), exercises for the chest and back muscles are combined. Exercises can be performed sequentially or by the method of supersets/combined sets (back-chest). Moreover, if in the first exercise a smaller weight of the implement and a larger number of repetitions are used, then in the second – a relatively larger weight and a more powerful load with a smaller number of repetitions in series. A similar effect is acceptable on arm muscles. If the triceps lags behind in development, then first you need to work on the biceps, and vice versa.

Questions and Tasks:

- Preparatory Part: Slow running, warm-up (GDE, flexibility exercises, bends, lunges).
- Main Part: Learn an exercise complex for the shoulder girdle using one's own weight. Technique of performing exercises for the muscles of the upper shoulder girdle. Shoulder press machine for deltoid muscles. Seated dumbbell shoulder press. Lateral dumbbell raises upward. Cable lateral raises on a block machine. Standard exercise routines.
- Concluding Part: Relaxation and flexibility exercises. Analysis of students' learning activities.

Control Questions

1. The essence of the concept of general physical training.
2. The impact of gymnastics classes on the student's body.
3. Physical quality – strength and the methodology of its development.
4. Physical quality – flexibility and the methodology of its development.
5. Physical quality – agility and the methodology of its development. Coordination abilities.
6. Physical quality – endurance and the methodology of its development.
7. Physical quality – speed and the methodology of its development. Speed-strength abilities.
8. Fundamentals of athletic gymnastics training.
9. Hygiene during athletic gymnastics classes.
10. What is the positive effect of strength training on the human body?
11. The body as a single biological system. Hypodynamia and hypokinesia, their impact on the body.

12. Morphological and main physiological functions of the body. Patterns of their improvement under the influence of targeted physical load.

List of Recommended Literature

Main Literature

1. Zenkova, T. A. Professionally Applied Physical Culture of Students [Electronic resource] / Zenkova T. A. : textbook. - 2nd ed., enlarged. - Rostov-on-Don : RSTU, 2020. - 152 p. - Approved by the educational and methodological council of the university. - ISBN 978-5-88814-921-8
2. Physical Culture and Sports: a textbook for undergraduate and specialist students in all fields of study implemented by MGSU / V. A. Nikishkin, N. N. Bumarskova, S. I. Kramskoy [et al.]. - Physical Culture and Sports, 2026-08-04. - Electron. data (1 file). - Moscow : MISI-MGSU, EBS ASV, 2021. - 380 p. - electronic. - The book is in the premium version of EBS IPR BOOKS. - ISBN 978-5-7264-2861-1

Additional Literature

1. Athletic Gymnastics. Powerlifting. Features of organizing classes in a higher education institution [Electronic resource] / Vaseltsova I. A., Belov D. O., Brodetsky A. B., Mostovaya N. V., Averyasova Yu. O. : textbook. - Samara: SamGUPS, 2019. - 186 p., unlimited copies
2. Grishina, Yu. I. General Physical Training. To Know and Be Able to: [textbook for students of higher educational institutions] / Yu. I. Grishina. - Rostov-on-Don: Phoenix, 2016. - 250 p.: ill. - (Higher Education). - Endorsement: Appr. UMO. - Bibliogr.: p. 244-245.
3. Grishina, Yu. I. Student's Physical Culture: textbook: [for students of higher education institutions for the discipline Physical Culture] / Yu. I. Grishina. – Rostov-on-Don: Phoenix, 2019. – 284 p.: ill. – (Higher Education). – Endorsement: Rec. NMS. – App.: p. 271-277. – Bibliogr.: p. 269-270. – ISBN 978-5-222-31286-5
4. Nebytova L.A. Physical Culture: Textbook (Course of Lectures)./ L.A. Nebytova, M.V. Katrenko, N.I. Sokolova Stavropol: NCFU, 2017. – 336 p.
5. Sapozhnikova, O.V. Fitness [Electronic resource]: textbook / O.V. Sapozhnikova. - Fitness, 2022-08-31. - Yekaterinburg: Ural Federal University, EBS ASV, 2015. - 144 p.
6. Elective Courses in Physical Culture and Sports: textbook (practicum): / Ministry of Science and Higher Education of the Russian Federation, Federal State Autonomous Educational Institution of Higher Education North-Caucasus Federal University; compilers: M.V. Katrenko, D.I. Savin. - Stavropol: NCFU, 2020. - 152 p. : ill.

Methodological Literature

1. Methodological recommendations for organizing independent work in Elective Disciplines (Modules) in Physical Culture and Sports, 2026 [Electronic version].

2. Methodological instructions for performing practical work in Elective Disciplines (Modules) in Physical Culture and Sports, 2026 [Electronic version].

Internet Resources

1. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
2. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
3. <http://www.fizkulturavshkole.ru/default.htm> Journal Physical Culture at School
4. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture

List of Information Technologies Used in the Discipline, Including software and Information Reference Systems:

Not provided

Information Reference Systems

Information reference and information legal systems used in studying the discipline:

1. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture
2. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
3. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
4. Professional database of Rosstat // Access mode:
http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/databases/

Software: Special software is not required.

Material and Technical Supplies for the Discipline

- gym/strength training hall;
- open sports ground;
- equipment and inventory: treadmills, dumbbells, barbells, exercise machines (selectors/benches), body bars, jump ropes, fitness mats, mats, medicine balls, hoops, gymnastic sticks, etc.

NORTH-CAUCASUS FEDERAL UNIVERSITY

Methodological Guidelines for Arranging Students' Independent Work in ELECTIVE DISCIPLINES (MODULES) IN PHYSICAL CULTURE AND SPORTS for students majoring all fields of training and specialties

Stavropol 2026

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6. Methodological Instructions for Exam Preparation
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8. Methodological Instructions for the Execution of Term Papers

INTRODUCTION

The aim of mastering the discipline is the development of a physical culture and the ability for the directed use of various means of physical culture and sports to preserve and promote health, physical training, and self-training to ensure full-fledged future professional activity.

Objectives:

- preservation and promotion of student health, promotion of the proper formation and comprehensive development of the body, maintenance of high working capacity throughout the entire period of study;
- understanding the social significance of physical culture and sports and their role in personality development and preparation for professional activity;
- knowledge of the scientific-biological, pedagogical, and practical foundations of physical culture and a healthy lifestyle;
- formation of a motivational-value attitude toward physical culture, a mindset focused on a healthy lifestyle, physical improvement, and self-education of the habit of regular physical exercise and sports;
- mastering a system of practical skills and abilities ensuring the preservation and promotion of health, psychological well-being, the development and improvement of psychophysical abilities, qualities, and traits of the personality, and self-determination in physical culture and sports;
- acquiring personal experience in increasing motor and functional capabilities, ensuring general and professionally applied physical readiness for the future profession and daily life.

The methodological guidelines contain material for independent training in Elective Disciplines (Modules) in Physical Culture and Sports, developed subject to the requirements of the Federal State Educational Standard of Higher Education. The arrangement, logic, and specifics of studying the topics of the academic discipline Elective Disciplines (Modules) in Physical Culture and Sports are disclosed, and tasks are described aiming to disseminate the most effective, rational options and patterns of action in relation to physical culture and sports. Elective Disciplines (Modules) in Physical Culture and Sports is part of the component formed by the participants of educational relations and is studied in Semesters 2-7.

Here below come the competencies shaped through students' independent work:

Code and definition of the competency	Code and definition of the achievement indicator (AI)	Planned learning outcomes for the discipline (module) describing the stages of competency and indicator development
UC-7 Capable of maintaining an appropriate level of physical fitness to ensure full social and professional activity	AI-1 UC-7 selects health-saving technologies for full-scale social and professional activity in view of the physiological specifics of the body and the living conditions	Reveals the knowledge of health-saving technologies for full-scale social and professional activity
	AI-2 UC-7. Plans their working and free time for an optimal combination of physical and mental workload and ensuring work capacity in professional activity	Rationally combines physical and mental workload to ensure work capacity in professional activity
	AI-3 UC-7. Maintains a proper level of physical fitness to ensure full-fledged social and professional activity and adheres to the norms of a healthy lifestyle	Possesses skills in using the means and methods of basic types of physical culture, sports, and health-improving activities to maintain a proper level of physical fitness to ensure full-fledged social and professional activity

GENERAL DESCRIPTION OF STUDENTS' INDEPENDENT WORK

According to the curriculum, the students' independent work HELPS study the topics of the discipline according to the methodological guidelines presented below. The methodological support for independent work in the discipline includes:

1. Determining the academic questions that students must study independently.
2. Selecting the necessary educational literature mandatory for processing and study.
3. Searching for additional scientific literature that students may consult voluntarily if they develop an interest in this topic.
4. Determining control questions allowing students to independently verify the quality of the acquired knowledge.
5. Organizing consultations between the teachers and students to clarify issues that caused difficulties for students during the independent mastery of the educational material.

Students' independent work is a specifically arranged activity that includes the following components in its structure:

- clarification of the aim and the assigned educational task;
- clear and systematic planning of independent work;
- search for the necessary educational and scientific information;
- mastery of information and its logical processing;
- use of methods of research and scientific-research work to solve the assigned tasks;
- development of one's own view regarding the received task;
- presentation, substantiation, and defense of the obtained solution;
- conducting self-analysis and self-control.

Types of independent work in the academic discipline:

- working with the conceptual apparatus;
- search work using various sources;
- compiling an annotated bibliography on the respective issue;
- preparing reports on the topic.

Control of students' knowledge includes current control. Current control is carried out through the process of studying the discipline and includes the assessment of students' work in practical classes.

When performing independent work, the student must:

- master the minimum content of the discipline allocated for independent work and proposed by the instructor in accordance with the federal state educational standard of higher education;
- plan independent work in accordance with the independent work schedule proposed by the instructor;
- the student must carry out independent work in the ways as provided for by the curriculum and the working program;
- perform independent work and report on its results in accordance with the presentation schedule of results, types, and deadlines of reporting for the independent work of master's students.

The main types of student independent work in the discipline are: studying literature on the topics of the discipline, preparing for practical classes, and preparing for the execution of creative assignments.

CONTROL POINTS AND TYPES OF REPORTING THEREON

Not envisaged by the curriculum

METHODOLOGICAL RECOMMENDATIONS FOR STUDYING THEORETICAL MATERIAL

Successful mastery of the discipline Elective Courses in Physical Culture and Sports will take studying the presented topics independently and in detail employing the recommended sources of information presented in the respective literature list.

While studying the topics, it is recommended to take notes on the educational material.

While studying the literature on the respective topics of the discipline, it is recommended to take notes on the sources. The results of note-taking can be presented in various forms.

A plan is an outline of the read material, a brief (or detailed) list of questions reflecting the structure and sequence of the material. A detailed plan fully replaces a set of notes. A set of notes is a systematized, logical presentation of the source material. It is important to pay attention to categories and formulations that reveal the content of certain phenomena and processes, scientific conclusions, and practical recommendations. In the course of preparation for the topics of the discipline, it is necessary to study the primary literature and familiarize oneself with additional literature and new publications in periodicals: journals, newspapers, etc.

METHODOLOGICAL INSTRUCTIONS (BY TYPES OF WORK ENVISAGED BY THE WORKING PROGRAM OF THE DISCIPLINE)

Methodological recommendations for independent work on creative assignments

1. Physical culture in the hierarchy of values of general culture and human history.
2. Physical culture of the student's personality.
3. Scientific organization of labor and physical culture in the self-education of the future specialist.
4. Scientific-theoretical foundations of a healthy lifestyle.
5. Scientific-theoretical foundations of physical education.
6. Basics of sports training.
7. Scientific-theoretical and methodological foundations of health-improving physical culture.
8. Content of various systems of breathing exercises.
9. Socio-biological foundations of physical culture.
10. Self-control of individuals engaged in physical exercises and sports.
11. Physiological mechanisms and regularities of improving individual body systems under the influence of directed physical training.
12. Basics of a student's healthy lifestyle. The role of physical culture in ensuring health.
13. Psychophysiological foundations of academic labor and intellectual activity. Means of physical culture in the regulation of working capacity.
14. General physical, special, and sports training in the system of physical education.
15. Basics of the methodology of independent physical exercise sessions.
16. Physical culture in the professional activity of a bachelor and a specialist.
17. Indications and contraindications for physical exercises in various diseases (cardiovascular system, respiratory system, gastrointestinal tract, musculoskeletal system, vision, etc.).
18. Content of health-saving technologies in the system of general and higher education.

METHODOLOGICAL INSTRUCTIONS FOR EXAM PREPARATION

Not envisaged by the curriculum

LIST OF RECOMMENDED LITERATURE

Main Literature

1. Zenkova, T. A. Professionally Applied Physical Culture of Students [Electronic resource] / Zenkova T. A. : study guide. - 2nd ed., enlarged. - Rostov-on-Don : RSUT, 2020. - 152 p. - Approved by the academic and methodological council of the university. - ISBN 978-5-88814-921-8
2. Physical Culture and Sports: textbook for undergraduate and specialist students across all fields of study implemented by NRU MGSU / V. A. Nikishkin, N. N. Bumarskova, S. I. Kramskoy [et al.]. - Physical Culture and Sports, 2026-08-04. - Electronic data (1 file). - Moscow : MISI-MGSU, ELS ASV, 2021. - 380 p. - electronic. - The book is in the premium version of the ELS IPR BOOKS. - ISBN 978-5-7264-2861-1

Additional Literature

1. Athletic Gymnastics. Powerlifting. Features of Organizing Classes in Higher Educational Institutions [Electronic resource] / Vaseltsova I. A., Belov D. O., Brodetsky A. B., Mostovaya N. V., Averyasova Yu. O. : study guide. - Samara: SAMGUPS, 2019. - 186 p., unlimited copies
2. Grishina, Yu. I. General Physical Training. To Know and To Be Able To Do: [study guide for students of higher educational institutions] / Yu. I. Grishina. - Rostov-on-Don: Phoenix, 2016. - 250 p.: ill. - (Higher Education). - Endorsement: Approved by the UMO. - Bibliogr.: pp. 244-245.
3. Grishina, Yu. I. Student's Physical Culture: study guide: [for students of higher education institutions for the discipline Physical Culture] / Yu. I. Grishina. – Rostov-on-Don: Phoenix, 2019. – 284 p.: ill. – (Higher Education). – Endorsement: Recommended by the NMS. – App.: pp. 271-277. – Bibliogr.: pp. 269-270. – ISBN 978-5-222-31286-5
4. Nebytova L.A. Physical Culture: Study Guide (Course of Lectures)./ L.A. Nebytova, M.V. Katrenko, N.I. Sokolova Stavropol: NCFU, 2017. – 336 p.
5. Sapozhnikova, O.V. Fitness [Electronic resource]: study guide / O.V. Sapozhnikova. - Fitness, 2022-08-31. - Ekaterinburg: Ural Federal University, ELS ASV, 2015. - 144 p.
6. Elective Courses in Physical Culture and Sports: study guide (practicum): / Ministry of Science and Higher Education of the Russian Federation, Federal State Autonomous Educational Institution of Higher Education North-Caucasus Federal University; compilers: M.V. Katrenko, D.I. Savin. - Stavropol: NCFU, 2020. - 152 p. : ill.

Methodological Literature

1. Methodological recommendations for the organization of independent work in Elective Disciplines (Modules) in Physical Culture and Sports, 2026 [Electronic version].

2. Methodological instructions for the performance of practical work in Elective Disciplines (Modules) in Physical Culture and Sports, 2026 [Electronic version].

Internet Resources

1. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
2. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
3. <http://www.fizkulturavshkole.ru/default.htm> Journal Physical Culture at School
4. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture

Information technologies used, including a list of software and information reference systems
Not envisaged

Information Reference Systems

Information-reference and information-legal systems

1. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture:
2. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
3. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
4. Professional Database of Rosstat // Access mode:
http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/databases/

Software

No special software required.

Material and Technical Supplies

- gym / fitness room;
- open sports ground;
- equipment and inventory: treadmills, dumbbells, barbells, exercise machines, body bars, jump ropes, core mats, mats, medicine balls, hoops, gymnastic sticks, etc.

METHODOLOGICAL INSTRUCTIONS FOR WRITING TERM PAPERS

Not envisaged for by the curriculum.

Requirements for the Formatting of a Report

A report in the discipline, as a form of control of students' independent work, is a brief presentation of a scientific problem from a historical perspective, contained in one or more works.

The total volume of the work shall be 7–15 pages of printed text (including the title page, table of contents, and literature list) on A4 paper, on one side of the sheet. The text should highlight the structural parts of the work reflecting the essence of the study: introduction, main part, and conclusion, as well as headings and subheadings.

The aim of the work is to acquire skills in working with literature, summarizing literary sources and practical material on the topic, the ability to competently present the questions of the topic, and draw conclusions. The report must contain: a title page, a table of contents, an introduction, a main part, a conclusion, a list of literature (containing at least 3 sources), and appendices (as necessary).

The report begins with a table of contents, which indicates the page numbers for individual chapters. The introduction should reflect the place of the issue under consideration from the standpoint of historical and scientific-methodological problems (substantiate the choice of this topic, briefly explain why exactly it interested the author). The main part presents the material on the topic of the report in a logical sequence. The text must contain references to the literature used. In the case of verbatim reproduction of material, each quotation must have a reference to the corresponding item in the list of used literature with page numbers, for example [12, p. 56] or In work [11] ... are considered.

At the beginning of the main part, it is recommended to include several introductory paragraphs that directly introduce the topic of the report, and at the end, to summarize and draw a conclusion for each chapter or section. For visual clarity of the presented material, it is desirable to accompany the report with figures and tables, to which there must be corresponding references in the text. All illustrations in the report must be numbered. The numbering must be running, that is, through the entire work. If there is only one illustration in the work, it is not to be numbered. In the text, references are made to the illustrations containing the serial numbers under which the illustrations are placed in the report.

References in the text to the number of a figure, table, page, or chapter shall be written abbreviated and without a symbol, such as #, for example: Fig. 3, Table 4, p. 34, Ch. 2, see Figure 5 or the graph ... is shown in Figure 2. If the indicated words are not accompanied by a serial number, they should be written in full in the text, without abbreviations, for example, it can be seen from the figure that..., the table shows that..., etc. Photographs, drawings, maps, and diagrams can be formatted as an appendix to the work. All tables, if there are several of them, are numbered with Arabic numerals within the entire text. Above the upper right corner of the table, the inscription Table... is placed, indicating the serial number of the table (for example, Table 4) without the # sign before the number and without a period after it. If there is only one table in the text of the report, no number is assigned to it, and the word table is not written.

Tables are offered with thematic headings, which are placed in the middle of the page and written with a capital letter without a period at the end.

The concluding part of the report contains a brief summary of the reviewed material, highlighting the most reliable and substantiated provisions and assertions, as well as the most problematic ones developed at the level of hypotheses, and the importance of the considered problem from the point of view of practical application, worldview, ethics, etc. In this part, the author summarizes the work, performs a brief analysis, and formulates conclusions.

At the end of the work, a list of used literature is attached; the literature sources are numbered and arranged in alphabetical order (the literature list must contain at least 3 sources). The report must be executed on one side of a sheet of white A4 paper (210x297 mm).

The line spacing is 1.5 lines. The font color is black. The font family of the main text is Times New Roman. The font size is 14 points. Page margin sizes: right - 30 mm, top and bottom - 20 mm, left - from 10 to 15 mm. Paragraph format: full alignment (justified). The indent of the first line is identical throughout the text. Pages must be numbered, taking into account the title page, which is not designated by a number. The names of chapters and subheadings must be highlighted. The font size for the names of chapters and subheadings is 14 (bold). A period is not placed at the end of a heading. Headings are not underlined. Paragraphs begin on a new line and are printed with an indent of 1.25 centimeters. The table of contents (content) must be placed at the beginning of the work.

MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN
FEDERATION

Federal State Autonomous Educational Institution of Higher Education
NORTH-CAUCASUS FEDERAL UNIVERSITY

Methodological Guidelines for Performing Practical Work in
ELECTIVE DISCIPLINES (MODULES) IN PHYSICAL CULTURE AND SPORTS
for students majoring all fields of training and specialties

INTRODUCTION

The successful solution of general and special tasks in the field of physical culture – such as health promotion, increasing the level of general working capacity, and developing basic physical qualities, that is, indicators that are directly related to the level of dynamic health in higher educational institutions – is extremely important. This is because only in a higher educational institution does a state program on elective physical culture mandatory for all students exist, and it is precisely in the higher educational institution that a fundamental basis for health is created for many years ahead, since after graduation from the educational institution there are no mandatory physical culture classes.

Insufficient, limited motor activity contributes to the occurrence and acute course of such diseases as hypertension, atherosclerosis, myocardial infarction, vegetative-vascular dystonia, and obesity, and contributes to premature fatigue and overstrain of the nervous system. Thus, it can be stated that in young people, as a result of hypodynamia, premature functional weakness of internal organs and dystrophic phenomena of the musculoskeletal system arise and develop, and a senile mechanism for regulating the functional state of organs and systems is formed prematurely. The question arises as to how a sedentary lifestyle can be compensated for.

Regular physical exercise is a powerful tool in the fight against hypodynamia. It contributes to the restoration of working capacity, returns a good mood to a person, increases tone, and increases their communication with the outside world. Along with hypodynamia, stress has a fairly pronounced negative impact on human health. A high forced pace of professional activity and a constant deficit of time in daily life already constitute stress. In light of the above, of particular importance is the determination of the role of psychophysiological characteristics of student development in the conditions of ontogenesis, social activity, and motives in forming the strive for systematic physical exercise as a means of health promotion, as well as the significance of the motivational-emotional factor in forming a healthy lifestyle. Moreover, stable motivations for physical improvement, brought up in youth in every person, turn into a system of generally accepted ideas and behavioral norms that determine the prestige of a high level of human health and physical improvement, and into an essential criterion for evaluating them as a personality as a whole.

The methodology of health-improving classes that has developed to date is far from effective for everyone, since special medical groups combine individuals with various diseases, different levels of physical fitness, and working capacity.

In this regard, given motivational attitudes toward physical improvement in interconnection with the psycho-emotional characteristics of the student's body, the aim of health-improving physical culture is: shaping competencies and a culture of personality possessing a civic

position, moral qualities, a sense of responsibility, independence in learning the methods and means of physical culture, in decision-making, initiative, and tolerance. Such an orientation of the educational process helps the student to build and implement prospective lines of physical, intellectual, cultural, moral, spiritual, and professional self-development and self-improvement. This subsequently manifests itself in successful socialization in society, the use of various forms of health-improving physical culture and sports in daily life to preserve and promote one's health and the health of one's relatives, family, and labor collective for a quality life and effective professional activity.

The main tasks aimed at the implementation of health-improving physical culture are: the formation of the social significance of physical culture among students of special medical groups and its role in personality development, health preservation, and promotion; familiarization with various complexes of health-improving systems; teaching the biological, pedagogical, and practical foundations of health-improving physical culture and methods for assessing the physical, functional, and energetic state of the body; teaching practical skills in using the means of health-improving physical culture to promote and restore the health of students with weakened health; forming the foundations for the independent and methodologically substantiated use of physical culture and health-improving activity to achieve life and professional goals.

With properly selected physical exercises of a health-improving orientation, a flow of impulses constantly arrives at the brain cells from the working muscles; under their influence, the main processes occurring in the nervous system are normalized. At the same time, the most beneficial redistribution of blood for the body is ensured, metabolism and brain circulation improve, and oxygen and nutrients enter the nerve cells in large quantities. In this regard, we have developed a textbook taking into account motivational attitudes toward physical improvement in interconnection with the psycho-emotional characteristics of the body of SMG (Special Medical Group) students.

The aim of mastering the discipline includes the development of competencies and a culture of personality possessing a civic position, moral qualities, a sense of responsibility, independence in learning the methods and means of physical culture, in decision-making, initiative, and tolerance, and building and implementing prospective lines of physical, intellectual, cultural, moral, spiritual, and professional self-development and self-improvement. The ability for successful socialization in society, the use of various forms of health-improving physical culture and sports in daily life to preserve and promote one's health and the health of one's relatives, family, and labor collective for a quality life, and effective professional activity.

The objectives specifying the aim of the discipline are:

- formation of the social significance of physical culture among students of special medical groups and its role in personality development, health preservation, and promotion;
- familiarization with various complexes of health-improving systems;
- teaching the biological, pedagogical, and practical foundations of health-improving physical culture and methods for assessing the physical, functional, and energetic state of the body;
- teaching practical skills in using the means of health-improving physical culture to promote and restore the health of students of special medical groups;
- formation of the foundations for the independent and methodologically substantiated use of physical culture and health-improving activity to achieve life and professional goals.

SEMESTER 2

Topic: TEACHING THE TECHNIQUE OF MOTOR ACTIONS IN THE BASIC TYPES OF PHYSICAL CULTURE, SPORTS, AND HEALTH-IMPROVING ACTIVITIES

Practical Class 1

Introductory class. Safety briefing in classes.

Aim: shaping ideas about the organization of the process of physical education in groups, conducting a safety briefing in classes.

Planned outcomes within the competencies:

- demonstrates knowledge of health-saving technologies and physiological features of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental load to ensure working capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The rationale of the practical class topic is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of the physical culture of the personality. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended in the process of study, and increasing the body's resistance to the effects of unfavorable environmental factors.

Theoretical part.

In order to identify the state of health and distribution into medical groups, all students admitted to the first year undergo a medical examination conducted by a special commission consisting of specialist physicians. Repeated medical examinations are conducted in all subsequent years of study, as well as after past illnesses, injuries, by direction of instructors, and at the request of the students themselves. Based on the data of repeated medical examinations, students can be transferred to other medical groups. The exemption of students from physical exercises can only be temporary, due to the presence of an acute illness or injury, or an exacerbation of a chronic disease. In case of long-term exemption, students must be present at physical culture classes, mastering the methodological section of the program. Based on the data of the medical examination, in accordance with the state of health, level of physical development, and physical fitness, students are distributed into three medical groups: primary, preparatory, and special. Transfer from one medical group to another, as already noted, is carried out only after repeated

medical examinations conducted during the entire period of study. Students without deviations in health status and possessing a sufficient level of physical fitness are enrolled in the primary group. The preparatory group is formed from students who have minor deviations in health status or an insufficient level of physical development and physical fitness. Students with various deviations in health status are enrolled in the special medical group.

Questions and tasks.

- Preparatory part. Joint warm-up – 10 minutes.
- Main part. Safety briefing in classes. Form an idea about determining the intensity of the load by heart rate. Design of a self-control diary on physical development.
- Concluding part. Exercises for the development of flexibility (7–10 minutes).

Practical Classes 2, 3: Diagnostics of the functional state of the body and general physical working capacity of students.

Aim: detection and adjustment of the functional state of the body of special medical group students to physical load.

Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological features of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental load to ensure working capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The rationale of the topic is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of the physical culture of the personality. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended in the process of study, and increasing the body's resistance to the effects of unfavorable environmental factors.

Theoretical part.

Heart rate (HR) is the most important indicator of the functional activity of the cardiovascular system. It is recommended to count the pulse regularly at the same time of day at rest. Best of all in the morning, lying down after waking up. Observations of the pulse are carried out before the class (3–5 minutes prior), during, and after classes. A sharp acceleration or decrease

in the pulse compared to previous indicators may be a consequence of overstrain or illness. It is also recommended to monitor the regularity of the rhythm and the degree of pulse filling. Normally, in an adult untrained person, the heart rate ranges within 60–89 bpm. In the lying position, the pulse is on average 10 beats less than when standing. In women, the pulse is more frequent by 7–10 bpm than in men of the same age. In children, the pulse rate is significantly higher than in adults. Thus, in newborns – on average 140 bpm, in children up to one year – 120, at the age of 2 years – 110, and at 5 years – 100 bpm. One-time functional test with squats. The subject rests while standing in the basic stance for 3 minutes. In the fourth minute, the pulse is counted for 15 seconds with a recalculation per 1 minute (baseline rate). Next, the subject performs 20 deep squats in 40 seconds, raising their arms forward, spreading their knees to the sides, and maintaining the torso in a vertical position. Immediately after squatting, the pulse rate is counted again during the first 15 seconds with a recalculation per 1 minute. The percentage increase in HR after squats compared to the baseline is determined. Evaluation (for men and women). Excellent – 20 or less, good – 21–40, satisfactory – 41–65, poor – 66–75, very poor – 76 or more.

Questions and tasks.

- Preparatory part. Joint warm-up – 10 minutes.
- Main part. Form an idea about determining the intensity of the load by heart rate. Execution of diagnostic tests. Design of a self-control diary on physical development.
- Concluding part. Exercises for the development of flexibility (7–10 minutes).

Practical Classes 4, 5, 6: Learning complexes of exercises for the prevention of posture disorders.

Aim: improvement of skills and abilities by means of the health-improving system, formation of an idea about the health-improving and applied significance of walking. Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological features of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental load to ensure working capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of the physical culture of the personality. The study of the means and methods of health-improving physical

culture is aimed at improving the health of SMG students, restoring energy expended in the process of study, and increasing the body's resistance to the effects of unfavorable environmental factors.

Theoretical part.

The most popular and accessible means of health-improving training are walking and running. According to various data, 25–50% of people who have started health-improving running are forced to either completely or for a long time stop it due to pain in the joints of the legs or in various parts of the spine. Recommendations for the prevention of the adverse effects of fast walking (according to specialists, it becomes health-improving when it is performed at a pace of 120 steps/min or more) are usually associated with the selection of soft surfaces and rational footwear. Indeed, both are very important. Walking on soft ground, a garden or forest path covered with a carpet of leaves, is not only safe (from the point of view of overload), but also simply pleasant. Perhaps the feeling of pleasure when walking precisely arises from the feeling of the optimality of ground reaction forces. In particularly difficult cases, the stiffness of the ground can be compensated for by increasing the shock-absorbing properties of the shoes. Insert foam insoles of various softness and thickness into your shoes, wear thick woolen socks; choose shoes with an elastic, flexible sole – this allows involving all the numerous joints of the tarsus and metatarsus into work and activating relatively small muscles of the feet. If the shoes have a rigid sole and especially tight lacing, then when walking, practically only the ankle joint works. This creates conditions for overloading various parts of the foot and hinders blood circulation. In addition to footwear and the quality of the track, the technique of walking is of great importance. Rational walking sharply reduces shocks and shock waves. Strive to minimize (it is impossible to completely avoid them) vertical movements of the body when walking. It is they, mainly, that generate pulsating overloads and micro-vibrations. Therefore, do not rush to separate the heel of the push-off leg from the support – this should happen after the free leg passes the vertical line. Otherwise, so-called jumping walking is observed, in which the center of mass of the body moves up and down by about 5–6 cm at each step. Late separation of the heel allows directing the push-off more forward than upward. Good shock absorption when placing the foot is very important. It should be carried out simultaneously in the ankle, knee, and hip joints – otherwise a bumping into one's own leg occurs. With the correct placement of the foot, immediately from the moment the heel touches the ground, a yielding flexion begins in the ankle joint, controlled by the shin muscles. The leg also begins to bend smoothly in the knee joint. This is possible only if it is previously slightly bent by 5–7° (the worst option is bumping onto the heel of a straight leg). Shock absorption in the hip joint occurs involuntarily.

Questions and tasks. Nordic walking. Health-improving walking. Health-improving complexes: SOFT Fitness, Cyclic (cycle).

- Preparatory part. Joint warm-up – 7 minutes.
- Main part. Health-improving walking: duration – 30 minutes, pace of steps per minute – 80, distance length – 1.8 km. Independent determination of load intensity by heart rate (under the supervision of the instructor). Teaching walking technique. General physical training for the development of the muscles of the shoulder girdle, jumping rope (5 minutes). Execution of the health-improving complex. Work of low intensity, HR 110–120 bpm for groups A, B, C.
- Concluding part. Exercises for relaxation, flexibility, and psychoregulation.

Practical Classes 7, 8, 9: Doing complexes of exercises for the prevention of posture disorders.

Aim: improvement of skills and abilities by means of the health-improving system, formation of a scientific understanding of the methods for regulating physical load in classes.

Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological features of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental load to ensure working capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance of the topic is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of the physical culture of the personality. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended in the process of study, and increasing the body's resistance to the effects of unfavorable environmental factors.

Theoretical part.

Load is the magnitude of the effect of physical exercises on the body and the degree of objective and subjective difficulties overcome at the same time. The load features: 1. The amount of work performed. 2. The magnitude of the effect on the body. 3. The degree of overcoming difficulties. 4. The informational intensity of the work. 5. Mental tension. 6. The coordination complexity of the performed physical exercises. The load has an external and an internal side. There is a direct connection between them (one increases, the other increases). The internal side is invisible – it represents the reactions of the body to the work performed, i.e., internal changes

(shifts) in the functioning of organs and systems of the body. Here, along with indicators of the immediate effect of the load manifesting themselves directly during work and immediately after its completion (HR, pressure, express tests), one can use data on the nature and duration of the recovery period. The external side of the load is the main one; it includes the total volume and intensity of the load. Volume is the amount of mechanical work, i.e., the long-term, cumulative effect of loads – the number of exercise repetitions, execution time, number of combinations, jumps. Intensity is the concentration of the load in time or the amount of training or competitive work per unit of time (speed, swiftness, pace, complexity), the tension of the effect, motor density, power of work. There are two directions in increasing the intensity of the load: the first is due to an increase in muscular and mental efforts, the second is due to the consolidation of the training session or day (greater execution of exercises). Volume is a factor of remote effect. Intensity is a factor of close, synchronous effect. Practically, the total load is evaluated by external parameters depending on the characteristics of the exercises: cyclic ones by mileage; exercises with weights by the number of sets, total weight; in gymnastics – by the number of exercises, combinations. Intensity is the motor density of the class, all exercise execution time divided by the class time. Relative intensity is the exercise execution time divided by the volume of exercises (speed, pace, power). Classification of loads: 1) by nature, loads can be training and competitive, specific and non-specific; 2) by magnitude – large (maximum), significant (submaximum), medium, small. 3) by direction – of a general nature and of a selective nature, contributing to the development of individual physical qualities. 4) by coordination complexity: into those performed in standard, stereotypical (unchanging) conditions and those performed in a changing environment in variable conditions. 5) by the magnitude of the effect: developing (large and significant), maintaining (stabilizing – medium), and restorative (small); 6) by power zones: 1) low power (HR – 130–140 bpm); 2) moderate power (HR – 140–160 bpm); 3) high power (HR – 160–180 bpm); 4) submaximal power (HR – 180–190 bpm); 5) maximal power (HR – 190 and more).

Questions and tasks. Nordic walking. Health-improving walking. Health-improving complexes: SOFT Fitness, Cyclic (cycle).

- Preparatory part. General developmental exercises (GDE) – 10 minutes.
- Main part. Improvement of health-improving walking technique: duration – 45 minutes, pace of steps per minute – 80, distance length – 2.5 km. Execution of the health-improving complex. Work of medium intensity, HR 120–130 bpm for groups A, B, C.
- Concluding part. Exercises for breathing and psychoregulation.

Practical Classes 10, 11, 12: Learning complexes of breathing exercises.

Aim: improvement of skills and abilities by means of the health-improving system, formation of ideas about the foundations of structuring classes with SMG students.

Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological features of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental load to ensure working capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance of the topic is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of the physical culture of the personality. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended in the process of study, and increasing the body's resistance to the effects of unfavorable environmental factors.

Theoretical part.

The structure of a class for individuals with deviations in health status corresponds to the generally accepted structure of physical culture classes and includes three parts: preparatory, main, and concluding, with some increase in the duration of the preparatory and concluding parts of the class. The preparatory part includes pulse counting, questioning about well-being, analysis of self-control diaries, and breathing and general developmental exercises. In the main part, a section of one of the types of the program is mastered, and active games, slow walking, and breathing exercises are included. Rest after performing a cycle of physical exercises and games is mandatory, preferably sitting down. After performing exercises with a large physical load, pulse counting is necessary. At the end of the main part, general developmental exercises are conducted at a calm, slowed pace with pauses for rest. The concluding part of the class has as its main task the restoration of the students' functional status. Here it is recommended to use exercises for the muscle groups that were least involved in the class process. Exercises should be performed at a calm pace with low intensity (slow walking, relaxation, and breathing exercises). The pulse rate is determined. The self-control diary is filled out, the results of the class are summarized, and a homework assignment is given.

Questions and tasks. Nordic walking. Health-improving walking. Health-improving complexes: SOFT Fitness, Cyclic (cycle).

- Preparatory part. Walking – 5–7 minutes. GDE – 10 minutes.

- Main part. Health-improving walking: duration – 50 minutes, pace of steps per minute – 80, distance length – 2.5 km. Execution of the health-improving complex. Work of medium intensity, HR 130–140 bpm for groups A, B, C.
- Concluding part. Exercises for breathing, psychoregulation, and flexibility.

Practical Classes 13, 14, 15: Execution of complexes of breathing exercises.

Aim: improved skills and abilities by means of the health-improving system, formation of ideas about the foundations of structuring health-improving classes.

Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological features of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental load to ensure working capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance of the topic is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of the physical culture of the personality. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended in the process of study, and increasing the body's resistance to the effects of unfavorable environmental factors.

Theoretical part.

When conducting organized and independent physical exercise sessions, it is necessary to adhere to the following methodological recommendations: 1. It is necessary to individualize the load, strictly observe the dosage, and constantly carry out medical-pedagogical control and self-control over the influence of exercises on the body of those engaged. 2. Caution should be exercised when using exercises involving straining, prolonged static tension, causing a long breath-holding, or requiring the manifestation of speed qualities. 3. Special attention must be paid to breathing, relaxation, and corrective exercises. Depending on the diagnosis of the disease, there are various indications and contraindications for the performance of certain types of physical exercises. For students with deviations on the part of the cardiovascular system (inactive phase of rheumatism, functional changes, etc.), exercises whose execution is associated with breath-holding and straining, with a sharp acceleration of the pace, or with static tension are contraindicated. For students with respiratory diseases (chronic bronchitis, pneumonia, bronchial asthma, etc.),

exercises causing breath-holding and straining are contraindicated. Special attention is paid to breathing exercises, which should contribute to training full breathing and, especially, a deepened exhalation. For students with kidney diseases, the physical load is significantly reduced, jumping is excluded, and hypothermia of the body is not allowed. Special attention is paid to strengthening the muscles of the anterior abdominal wall. For students with disorders of the nervous system, exercises causing overstrain of the nervous system are limited, for example, balance exercises, exercises on an elevated support, the time of games, etc. In diseases of the organs of vision, exercises associated with body shaking are excluded. In chronic diseases of the gastrointestinal tract, gallbladder, and liver, the load on the abdominal muscles is reduced, and jumping is limited. In case of posture disorders and scoliosis, versatile general physical preparation and the use of correcting exercises are necessary. Each physical exercise must be performed freely, without breath-holding. In cases where breath-holding is inevitable, it is necessary to perform 2–3 breathing exercises to restore disturbed breathing. It is necessary to pay special attention to breathing exercises due to the fact that circulatory disorders are accompanied, as a rule, by respiratory disorders, and a violation of respiratory function often causes a circulatory disorder. In classes, it is necessary to use breathing exercises with the aim of developing deep breathing, enhancing exhalation, as well as exercises to coordinate the respiratory act with the movement of limbs and torso (dynamic breathing exercises).

Questions and tasks

- Preparatory part. Walking – 5–7 minutes. GDE – 10 minutes.
- Main part. Health-improving walking: duration – 50 minutes, pace of steps per minute – 80, distance length – 2.5 km. Execution of the health-improving complex. Work of medium intensity, HR 120–130 bpm for groups A, B, C.
- Concluding part. Exercises for breathing, psychoregulation, and flexibility.

Practical Classes 16, 17, 18: Learning complexes of exercises of a health-improving orientation.

Aim: improvement of skills and abilities by means of the health-improving system, formation of ideas about the means of physical culture for students of special medical groups.

Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological features of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental load to ensure working capacity in professional activity;

- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance of the topic is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of the physical culture of the personality. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended in the process of study, and increasing the body's resistance to the effects of unfavorable environmental factors.

Theoretical part.

The means of physical culture are natural factors of nature, hygienic conditions, and physical exercises. The systematic and Planned use of natural factors of nature (air and sun baths, water procedures) contributes to health promotion and increasing the protective functions of the body. Hygienic conditions contributing to health promotion and the development of adaptive properties of the body include: compliance with the regime of labor and rest, diet, and compliance with the rules of personal and public hygiene. The main means of physical education are physical exercises, allowing the formation of vitally important skills and abilities, contributing to an increase in the physical state and adaptive properties of the body, and the restoration of its previously lost functions. In the practice of physical education, there are a number of classifications of physical exercises compiled on the basis of various characteristics. Physical exercises are classified by type of competitive activity: gymnastic, track and field, swimming, game-based; by their structural features: cyclic and acyclic. A grouping of exercises by their specific purpose in the process of performing motor actions is used. For individuals with deviations in health status, they are subdivided into general developmental (general strengthening) and special. General strengthening exercises are aimed at the improvement and strengthening of the entire body. Special exercises have a selective effect on one part or another of the musculoskeletal system. The exact same exercises, depending on the physical condition, the diagnosis of the disease, and the methodology of their application, can contribute to the solution of different tasks. For example, exercises for the torso muscles, according to their physiological effect on the body, are general strengthening for a healthy person. For a person with a spine disease (scoliosis, osteochondrosis, etc.), these physical exercises constitute a group of special exercises, as they contribute to the solution of specific tasks: increasing the mobility of the spine, strengthening the muscles surrounding it, correcting the spine, etc.

Questions and tasks.

Nordic walking. Health-improving walking. Health-improving complexes: SOFT Fitness, Cyclic (cycle).

- Preparatory part. GDE – 10–12 minutes.
- Main part. Improvement of health-improving walking technique: duration – 45 minutes, pace of steps per minute – 80, distance length – 2.5 km. Execution of the health-improving complex. Work of medium intensity, HR 120–130 bpm for groups A, B, C.
- Concluding part. Exercises for breathing, flexibility, and psychoregulation – 15–20 minutes.

Practical Classes 19, 20, 21: sets of complexes of exercises of a health-improving orientation.

Aim: improvement of skills and abilities by means of the health-improving system, formation of ideas about the influence of physical loads on the human body.

Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological features of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental load to ensure working capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance of the topic is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of the physical culture of the personality. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended in the process of study, and increasing the body's resistance to the effects of unfavorable environmental factors.

Theoretical part.

Physical exercises affect all muscle groups, joints, and ligaments, which become strong, and the volume of muscles, their elasticity, strength, and speed of contraction increase. Increased muscular activity forces the heart, lungs, and other organs and systems of our body to work with an additional load, thereby increasing the functional capabilities of a person and their resistance to unfavorable influences of the external environment. Regular physical exercise primarily affects the musculoskeletal apparatus and muscles. When performing physical exercises, heat is generated in the muscles, to which the body responds with increased sweating. During physical loads, blood

flow increases: blood brings oxygen and nutrients to the muscles, which break down in the process of vital activity, releasing energy. During movements, reserve capillaries additionally open in the muscles, and the amount of circulating blood increases significantly, which causes an improvement in metabolism. In the response reaction of the human body to physical load, the first place is occupied by the influence of the cerebral cortex on the regulation of functions of the main systems: shifts occur in the cardiorespiratory system, gas exchange, metabolism, etc. Exercises enhance the functional restructuring of all links of the musculoskeletal apparatus, cardiovascular, and other systems, and improve tissue metabolism processes. Under the influence of moderate physical loads, the working capacity of the heart, the hemoglobin content, and the number of erythrocytes increase, and the phagocytic function of blood rises. The function and structure of the internal organs themselves are perfected, and the chemical processing and advancement of food through the intestines improve. If, however, the muscles are inactive, their nutrition deteriorates, volume and strength decrease, elasticity and resilience decline, and they become weak and flabby. Restriction in movements (hypodynamia) and a passive lifestyle lead to various pre-pathological and pathological changes in the human body. Physical loads exert a versatile influence on the human body and increase its resistance to unfavorable environmental influences. Thus, for example, in physically trained individuals, compared with untrained ones, a better tolerance to oxygen deprivation is observed.

Questions and tasks.

Nordic walking. Health-improving walking. Health-improving complexes: SOFT Fitness, Cyclic (cycle).

- Preparatory part. General physical training. Power and speed-power exercises of a versatile orientation, development of lagging physical qualities – 15–20 minutes.
- Main part. Health-improving walking: duration – 45 minutes, pace of steps per minute – 80, distance length – 2.5 km. Execution of the health-improving complex. Work of low intensity, HR 110–120 bpm for groups A, B, C.
- Concluding part. Exercises for restoring breathing, relaxation, and flexibility. Summarizing the results of academic activity.

Practical Classes 22, 23: Final diagnostics of the functional state of the body and general physical working capacity of students with the dynamics of indicators.

Aim: detection and adjustment of the functional state of the body of special medical group students to physical load.

Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological features of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental load to ensure working capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance of the topic is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of the physical culture of the personality. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended in the process of study, and increasing the body's resistance to the effects of unfavorable environmental factors.

Theoretical part.

To assess the state of the respiratory and cardiovascular systems, and the ability of the body's internal environment to be saturated with oxygen, the Stange and Genchi tests are used. The Stange test (breath-holding on inhalation). The Genchi test (breath-holding on exhalation). Design of a self-control diary on physical fitness and physical development. Self-control is regular independent observations by those engaged over the state of their health, physical development, and fitness, and over the influence of physical exercises on the body. Based on the results of self-control, one can evaluate the reaction of one's body to physical load. It disciplines and accustoms to a conscious attitude toward classes. Self-control is subdivided into operational, current, and milestone control. Operational control allows obtaining urgent information, for example, about the reaction of the body to the load at the given moment. Current control informs about certain changes during one class, a cycle of classes, etc. Milestone control is conducted over a longer period of time, and its main task is to determine significant changes in the state of health, physical development, physical fitness, etc. Self-control data are recorded in a diary; they help those engaged to control and regulate the correctness of the selection of means and the methodology of conducting classes. It is recommended to enter data into the self-control diary characterizing the volume and intensity of loads and indicators of the body's reaction to the load, and the desire or unwillingness to perform physical exercises is noted. Various sensations, well-being, self-assessment, and adjustments for the future are also recorded.

Questions and tasks.

- Preparatory part. Joint warm-up – 10 minutes.

- Main part. Form an idea about determining the intensity of the load by heart rate. Execution of diagnostic tests. Design of a self-control diary on physical development.
- Concluding part. Exercises for restoring breathing and developing flexibility (7–10 minutes).

Practical Class 24 Control class.

Aim: to detect and correct the functional state of the body of special medical group students to physical load.

Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological features of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental load to ensure working capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance of the topic is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of the physical culture of the personality. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended in the process of study, and increasing the body's resistance to the effects of unfavorable environmental factors.

Questions and tasks. Diagnostics of the students' functional status.

- Preparatory part. Joint warm-up – 10 minutes.
- Main part. Execution of diagnostic tests. Design of a self-control diary on physical development.
- Concluding part. Exercises for restoring breathing and developing flexibility (7–10 minutes). Summarizing the results of students' academic activity.

Control questions for the topics of the semester:

1. Definition of endurance, means and methods of its education.
2. Definition of agility, means and methods of its education.
3. Definition of speed, means and methods of its education.
4. Definition of flexibility, means and methods of its education.
5. Definition of fatigue, overstrain, and their main signs.

6. Pedagogical and medical control in the process of health-improving physical culture sessions.
7. Means and methods of physical education for individuals with deviations in health status.
8. Health-improving and recreational physical culture.
9. Types of organization of physical education.
10. Forms of conducting physical culture classes.

List of Recommended Literature

Main Literature

1. Zenkova, T. A. Professionally Applied Physical Culture of Students [Electronic resource] / Zenkova T. A. : study guide. - 2nd ed., enlarged. - Rostov-on-Don : RSUT, 2020. - 152 p. - Approved by the academic and methodological council of the university. - ISBN 978-5-88814-921-8
2. Physical Culture and Sports: textbook for undergraduate and specialist students across all fields of study implemented by NRU MGSU / V. A. Nikishkin, N. N. Bumarskova, S. I. Kramskoy [et al.]. - Physical Culture and Sports, 2026-08-04. - Electronic data (1 file). - Moscow : MISI-MGSU, ELS ASV, 2021. - 380 p. - electronic. - The book is in the premium version of the ELS IPR BOOKS. - ISBN 978-5-7264-2861-1

Additional Literature

1. Athletic Gymnastics. Powerlifting. Features of Organizing Classes in Higher Educational Institutions [Electronic resource] / Vaseltsova I. A., Belov D. O., Brodetsky A. B., Mostovaya N. V., Averyasova Yu. O. : study guide. - Samara: SAMGUPS, 2019. - 186 p., unlimited copies
2. Grishina, Yu. I. General Physical Training. To Know and To Be Able To Do: [study guide for students of higher educational institutions] / Yu. I. Grishina. - Rostov-on-Don: Phoenix, 2016. - 250 p.: ill. - (Higher Education). - Endorsement: Approved by the UMO. - Bibliogr.: pp. 244-245.
3. Grishina, Yu. I. Student's Physical Culture: study guide: [for students of higher education institutions for the discipline Physical Culture] / Yu. I. Grishina. – Rostov-on-Don: Phoenix, 2019. – 284 p.: ill. – (Higher Education). – Endorsement: Recommended by the NMS. – App.: pp. 271-277. – Bibliogr.: pp. 269-270. – ISBN 978-5-222-31286-5
4. Nebytova L.A. Physical Culture: Study Guide (Course of Lectures)./ L.A. Nebytova, M.V. Katrenko, N.I. Sokolova Stavropol: NCFU, 2017. – 336 p.
5. Sapozhnikova, O.V. Fitness [Electronic resource]: study guide / O.V. Sapozhnikova. - Fitness, 2022-08-31. - Ekaterinburg: Ural Federal University, ELS ASV, 2015. - 144 p.

6. Elective Courses in Physical Culture and Sports: study guide (practicum): / Ministry of Science and Higher Education of the Russian Federation, Federal State Autonomous Educational Institution of Higher Education North-Caucasus Federal University; compilers: M.V. Katrenko, D.I. Savin. - Stavropol: NCFU, 2020. - 152 p. : ill.

Methodological Literature

1. Methodological recommendations for the organization of independent work in Elective Disciplines (Modules) in Physical Culture and Sports, 2026 [Electronic version].
2. Methodological instructions for the performance of practical work in Elective Disciplines (Modules) in Physical Culture and Sports, 2026 [Electronic version].

Internet Resources

1. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
2. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
3. <http://www.fizkulturavshkole.ru/default.htm> Journal Physical Culture at School
4. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture

List of Information Technologies, Including the List of Software and Information Reference Systems

Not envisaged

Information Reference Systems

Information-reference and information-legal systems

1. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture:
2. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
3. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks

Software Special software – not required.

Material and Technical Supplies

- room for therapeutic physical culture;
- open sports ground;
- equipment and inventory: treadmills, dumbbells, barbells, exercise machines, body bars, jump ropes, core mats, mats, medicine balls, hoops, gymnastic sticks, etc.

SEMESTER 3

Topic: TEACHING THE TECHNIQUE OF MOTOR ACTIONS IN THE BASIC TYPES OF PHYSICAL CULTURE, SPORTS, AND HEALTH-IMPROVING ACTIVITIES

Practical Class 1, 2

Introductory class. Safety briefing.

Aim: conducting a safety briefing in classes, shaping ideas about strength, means and methods of its education.

Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological features of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental load to ensure working capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance of the topic is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of the physical culture of the personality. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended in

the process of study, and increasing the body's resistance to the effects of unfavorable environmental factors.

Theoretical part.

Strength is a person's ability to overcome external resistance or oppose it through muscular efforts (tensions). Strength abilities are a complex of various manifestations of a person in a specific motor activity, based on the concept of strength. Means of educating strength abilities. In the development of strength abilities, exercises with increased resistance are used – strength exercises. Depending on the nature of the resistance, they are subdivided into primary and additional. The primary ones include: exercises with external resistance; exercises overcoming the weight of one's own body; isometric exercises; exercises using training equipment of a general type; jerk-braking exercises. Exercises with external resistance include: exercises with weights (barbells, dumbbells, medicine balls, kettlebells), including on exercise machines, which are convenient due to their versatility and selectivity, exercises with a partner; exercises with the resistance of elastic objects (rubber shock absorbers, bands, various expanders, pulley devices, etc.); exercises with external resistance are one of the effective means of developing strength. Methods for developing strength abilities: maximum efforts; repeated submaximal efforts; static (isometric) efforts; statodynamic; isokinetic efforts; dynamic efforts; shock method; circuit training; game method.

Questions and tasks. Health-improving systems of physical culture (optional): Total Body, POWER MIX, Cyclic (cycle), Body Balance.

- Preparatory part. GDE, flexibility exercises.
- Main part. Safety briefing in classes. Execution of the health-improving complex.
- Concluding part. Exercises for breathing, self-massage.

Practical Classes 3, 4, 5, 6, 7: Learning complexes of exercises of a health-improving orientation.

Aim: improvement of skills and abilities by means of the health-improving system, formation of ideas about endurance, means and methods of its education.

Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological features of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental load to ensure working capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance of the topic is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of the physical culture of the personality. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended in the process of study, and increasing the body's resistance to the effects of unfavorable environmental factors.

Theoretical part.

Endurance is the ability to resist physical fatigue in the process of muscular activity. The means of developing general (aerobic) endurance are exercises causing maximum productivity of the cardiovascular and respiratory systems. Muscular work is provided mainly due to an aerobic source; the intensity of work can be moderate, high, or variable; the total duration of the exercise is from several to tens of minutes. In the practice of physical education, a wide variety of physical exercises of a cyclic and acyclic nature are used in form, for example, continuous running, cross-country running, cross-country skiing, ice skating, cycling, swimming, games and game exercises, exercises performed by the method of circuit training (including 7–8 or more exercises performed at a medium pace in the circuit), etc. The main methods for developing general endurance are: 1) the method of continuous exercise with a load of moderate and variable intensity; 2) the method of repeated interval exercise; 3) the method of circuit training; 4) the game method; 5) the competitive method.

Questions and tasks. Health-improving systems of physical culture (optional): Total Body, POWER MIX, Cyclic (cycle), Body Balance.

- Preparatory part. GDE, flexibility exercises.
- Main part. Execution of the health-improving complex. Work of low intensity. HR 120–130 bpm for groups A, B, C.
- Concluding part. Exercises for breathing, psychoregulation, and flexibility.

Practical Classes 8, 9, 10, 11, 12: Execution of complexes of exercises of a health-improving orientation.

Aim: improvement of skills and abilities by means of the health-improving system, formation of ideas about agility, means and methods of its education.

Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological features of the body to ensure full-fledged social and professional activity;

- rationally combines physical and mental load to ensure working capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance of the topic is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of the physical culture of the personality. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended in the process of study, and increasing the body's resistance to the effects of unfavorable environmental factors.

Theoretical part.

Agility here means a person's ability to quickly master new movements or to quickly restructure motor activity in accordance with the requirements of a suddenly changed situation. The education of agility is associated with increasing the ability to perform complex movements in terms of coordination, quickly switching from some motor acts to others, and developing the ability to act most expediently in accordance with suddenly changed conditions or tasks (i.e., the ability to quickly, accurately, and economically solve a complex motor task). The following exercises are considered the most effective means of educating agility: gymnastic, acrobatic, track and field, sports-game based, martial arts, and alpine skiing. Gymnastic and acrobatic exercises develop analyzer systems, increase vestibular stability, and improve the coordination capabilities of those engaged. Specially selected GDE for the coordination and accuracy of movements are particularly effective for educating the coordination of arm movements.

Questions and tasks. Health-improving systems of physical culture (optional): Total Body, POWER MIX, Cyclic (cycle), Body Balance.

- Preparatory part. GDE, flexibility exercises.
- Main part. Execution of the health-improving complex. Work of low intensity. HR 120–130 bpm for groups A, B, C.
- Concluding part. Exercises for breathing, psychoregulation, and flexibility.

Practical Classes 13, 14, 15, 16, 17: Topic: Learning complexes of exercises by nosology.

Aim: improvement of skills and abilities by means of the health-improving system, formation of ideas about speed, means and methods of its education.

Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological features of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental load to ensure working capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance of the topic is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of the physical culture of the personality. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended in the process of study, and increasing the body's resistance to the effects of unfavorable environmental factors.

Theoretical part.

The means of developing speed are exercises performed at maximum or near-maximum speed, that is, speed exercises. They can be divided into three main groups: 1. Exercises directly affecting individual components of speed abilities: a) reaction speed, b) speed of performing individual movements, c) improvement of movement frequency, d) speed of performing integral actions, e) improvement of starting speed. 2. Exercises of complex (versatile) effect on all main components of speed abilities (for example, sports and active games, relay races, martial arts, etc.). 3. Exercises of coupled effect: a) on speed and strength abilities (speed-strength exercises), b) on speed and coordination abilities (speed-coordination exercises), c) on speed abilities and endurance (exercises for speed endurance). The main method in the development of a motor reaction is the method of repeated execution of an exercise. It consists of repeatedly reacting to a suddenly appearing (pre-arranged) stimulus with a focus on reducing reaction time.

Questions and tasks. Health-improving systems of physical culture (optional): Total Body, POWER MIX, Cyclic (cycle), Body Balance.

- Preparatory part. GDE, flexibility exercises.
- Main part. Execution of the health-improving complex. Work of low intensity. HR 120–130 bpm for groups A, B, C.
- Concluding part. Exercises for breathing, psychoregulation, and flexibility.

Practical Classes 18, 19, 20, 21, 22: Topic: Execution of complexes of exercises by nosology.

Aim: improvement of skills and abilities by means of the health-improving system, formation of ideas about flexibility, means and methods of its education.

Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological features of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental load to ensure working capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance of the topic is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of the physical culture of the personality. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended in the process of study, and increasing the body's resistance to the effects of unfavorable environmental factors.

Theoretical part.

Flexibility is the ability to perform movements with a large amplitude. As a means of developing flexibility, exercises are used that can be performed with maximum amplitude. They are otherwise called stretching exercises. The main limiters of the range of movements are antagonist muscles. To stretch the connective tissue of these muscles, to make the muscles compliant and resilient (like a rubber band) – is the task of stretching exercises. Among stretching exercises, active, passive, and static ones are distinguished. Active movements with full amplitude (swings of arms and legs, jerks, bends, and rotational movements of the torso) can be performed without objects and with objects (gymnastic sticks, hoops, balls, etc.). Passive flexibility exercises include: movements performed with the help of a partner; movements performed with weights; movements performed with the help of a rubber expander or shock absorber; passive movements using one's own strength (pulling the torso to the legs, bending the hand with the other hand, etc.); movements performed on apparatuses (the weight of one's own body is used as a weight). Static exercises performed with the help of a partner, one's own body weight, or strength require maintaining a stationary position with maximum amplitude for a certain time (6–9 seconds). The game and competitive methods are used for the development and improvement of flexibility.

Questions and tasks. Health-improving systems of physical culture (optional): Total Body, POWER MIX, Cyclic (cycle), Body Balance.

- Preparatory part. GDE, flexibility exercises.
- Main part. Execution of the health-improving complex. Work of low intensity. HR 120–130 bpm for groups A, B, C.
- Concluding part. Exercises for breathing, psychoregulation, and flexibility.

Practical Classes 23, 24, 25, 26: Learning sets of exercises aimed at body recovery.

Aim: improvement of skills and abilities by means of the health-improving system, formation of ideas about fatigue and its main signs.

Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological features of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental load to ensure working capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance of the topic is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of the physical culture of the personality. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended in the process of study, and increasing the body's resistance to the effects of unfavorable environmental factors.

Theoretical part.

Fatigue is the exhaustion of the human body at the physical, psychological, and emotional levels. Whereas overstrain is a prolonged feeling of exhaustion, that is, fatigue. The state of overstrain is a constant feeling for many modern people, due to our rhythm of life and constant state of stress. Tiredness is a physiological characteristic of the human body, representing a temporary decrease in the capabilities of the body for full activity. The main external symptom of tiredness is the deterioration in the quality of work and a decrease in its pace. A sign of fatigue and overstrain is a deterioration in memory and a decrease in working capacity at the physical level. A person develops apathy and a desire to be left alone by everyone. Scattered attention appears. It becomes necessary for such an individual to make certain efforts to focus. All these factors can cause an increase in blood pressure. In this state, people become uncommunicative.

Questions and tasks. Health-improving systems of physical culture (optional): Total Body, POWER MIX, Cyclic (cycle), Body Balance.

- Preparatory part. GDE, stretching exercises.
- Main part. Execution of the health-improving complex. Work of medium intensity. For groups A, B (HR 130–140 bpm), C (HR 120–130 bpm).
- Concluding part. Exercises for relaxation, analysis of students' academic activity.

Practical Classes 27, 28, 29, 30: Execution of complexes of exercises aimed at body recovery. Aim: improvement of skills and abilities by means of the health-improving system, formation of ideas about overstrain and means of recovery.

Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological features of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental load to ensure working capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance of the topic is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of the physical culture of the personality. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended in the process of study, and increasing the body's resistance to the effects of unfavorable environmental factors.

Theoretical part.

Overstrain is a pathological state that develops in a person as a result of chronic physical or psychological strain, the clinical picture of which is determined by functional disorders in the central nervous system. Against its background, the body's ability to resist external influences falls, which leads to an increased risk of injury or illness. Overstrain does not pass without a trace for the nervous system either. Overstrain can also affect appetite: in a tired individual, the desire to eat decreases or completely disappears. Consequently, the body receives less energy – a vicious circle is obtained. With chronic tiredness, bowel disorders can also be observed. Overstrain can, on the contrary, trigger hyperactivity of the body. Such a situation leads to an even greater aggravation of the problem, since the body, contrary to logic, begins to spend even more energy, launching a mechanism of self-destruction. The most effective are pedagogical restorative means.

Biomedical means of recovery are also widely used. The general condition of the body is improved by dry-air and steam baths, general manual and apparatus massage, air ionization, and baths. Biomedical means of recovery also include a balanced diet, pharmacological preparations (except banned ones), and vitamins.

Questions and tasks. Health-improving systems of physical culture (optional): Total Body, POWER MIX, Cyclic (cycle), Body Balance.

- Preparatory part. GDE, stretching exercises.
- Main part. Execution of the health-improving complex. Work of medium and high intensity. For groups A, B, C (HR 140–160 bpm).
- Concluding part. Exercises for breathing, psychoregulation, and flexibility.

Practical Classes 31, 32, 33: doing of sets of exercises of a health-improving orientation.

Aim: improvement of skills and abilities by means of the health-improving system, formation of basic ideas about medical-pedagogical control in the process of health-improving physical culture sessions.

Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological features of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental load to ensure working capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance of the topic is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of the physical culture of the personality. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended in the process of study, and increasing the body's resistance to the effects of unfavorable environmental factors.

Theoretical part.

According to condition and physical fitness, sex and age, as well as other indicators, this group of individuals is distributed into the following medical groups: 1st – practically healthy people who do not seek medical attention with complaints, possessing sufficient physical fitness for their age. 2nd – individuals with age-related changes accompanied by minor deviations of a

functional nature with sufficient compensation, or initial forms of diseases often characteristic of the aging process, as well as practically healthy people with insufficient physical fitness. 3rd – individuals with reduced functional adaptation, deviations in health status of a permanent or temporary nature, and with weak physical fitness. In the absence of contraindications, the subject is issued a certificate granting the right to engage in physical exercises in a physical culture and health-improving group. Depending on the dynamics of the state of health and physical fitness in the process of regular sessions, the participant can be transferred to one medical group or another. An important component of medical examinations consists of medical-pedagogical observations and control over loads. In addition, sanitary-hygienic control over the places of sessions is carried out, and sanitary-educational work is conducted among those engaged. All students engaged in physical culture and sports according to the academic schedule or independently must undergo medical examinations. Additional medical examinations are conducted before competitions, after past illnesses, in case of unfavorable subjective sensations, and by direction of the physical education instructor.

Questions and tasks. Health-improving systems of physical culture (optional): Total Body, POWER MIX, Cyclic (cycle), Body Balance.

- Preparatory part. GDE, stretching exercises.
- Main part. Doing of the health-improving complex. Work of medium and high intensity. For groups A, B, C (HR 140–160 bpm).
- Concluding part. Exercises for breathing, psychoregulation, and flexibility.

Practical Classes 34, 35: Final diagnostics of the functional state of the body and general physical working capacity of students with the dynamics of indicators.

Aim: improvement of skills and abilities by means of the health-improving system, formation of ideas about the types of organization of physical education.

Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological features of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental load to ensure working capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance of the topic is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of

the physical culture of the personality. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended in the process of study, and increasing the body's resistance to the effects of unfavorable environmental factors.

Theoretical part.

Educational work on the physical education of students is determined by the programs of the course of general physical training and courses of sports improvement. The GPT (General Physical Training) course is mandatory for first- and second-year students. Classes are held regularly for two hours a week according to the schedule. The program establishes the volume of material on the theory of physical education, practical classes, and regulatory requirements. The range of theoretical questions to be studied includes: physical education in higher educational institutions; basic means of physical education; medical control and self-control; individual gymnastics, its significance and principles of implementation. The theoretical section of the program has as its task to familiarize students with the general scientific foundations of the physical education of students: theoretical classes-lectures, group theoretical classes, and conversations ensuring the completion of the theoretical part of the program. The GPT course in practice includes gymnastics, games, track and field, swimming, and skiing; practical classes-lessons of GPT, sports-training sessions, and competitions in various types of sports, games, and gymnastics, ensuring the completion of the practical part of the program. In the process of mastering the course program of GPT, students develop the habit of regular physical exercise, and their sports orientation is revealed for subsequent improvement in one of the types of sports in elective classes or in sessions in sports sections of the student collective of physical culture. Propaganda activities: conversations, reports, lectures, sports evenings, consultations; organization of photo displays, exhibitions, albums; use of posters, tables, notices, and local media.

Questions and tasks. Health-improving systems of physical culture (optional): Total Body, POWER MIX, Cyclic (cycle), Body Balance.

- Preparatory part. GDE, flexibility exercises.
- Main part. Execution of the health-improving complex. Work of medium and higher intensity. HR 140–160 bpm for groups A, B, C, D.
- Concluding part. Exercises for breathing, psychoregulation, and flexibility.

Practical Class 36 Topic: Control class.

Aim: to detect and correct the functional state of the body of special medical group students to physical load.

Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological features of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental load to ensure working capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance of the topic is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of the physical culture of the personality. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended in the process of study, and increasing the body's resistance to the effects of unfavorable environmental factors.

Questions and tasks. Diagnostics of the students' functional status.

- Preparatory part. Joint warm-up – 10 minutes.
- Main part. Execution of diagnostic tests. Design of a self-control diary on physical development.
- Concluding part. Exercises for restoring breathing and developing flexibility (7–10 minutes). Summarizing the results of students' academic activity.

Control questions for the topics of the semester:

1. Definition of endurance, means and methods of its education.
2. Definition of agility, means and methods of its education.
3. Definition of speed, means and methods of its education.
4. Definition of flexibility, means and methods of its education.
5. Definition of fatigue, overstrain, and their main signs.
6. Pedagogical and medical control in the process of health-improving physical culture sessions.
7. Means and methods of physical education for individuals with deviations in health status.
8. Health-improving and recreational physical culture.
9. Types of organization of physical education.
10. Forms of conducting physical culture classes.

Literature

Main Literature

1. Zenkova, T. A. Professionally Applied Physical Culture of Students [Electronic resource] / Zenkova T. A. : study guide. - 2nd ed., enlarged. - Rostov-on-Don : RSUT, 2020. - 152 p. - Approved by the academic and methodological council of the university. - ISBN 978-5-88814-921-8
2. Physical Culture and Sports: textbook for undergraduate and specialist students across all fields of study implemented by NRU MGSU / V. A. Nikishkin, N. N. Bumarskova, S. I. Kramskoy [et al.]. - Physical Culture and Sports, 2026-08-04. - Electronic data (1 file). - Moscow : MISI-MGSU, ELS ASV, 2021. - 380 p. - electronic. - The book is in the premium version of the ELS IPR BOOKS. - ISBN 978-5-7264-2861-1

Additional Literature

1. Athletic Gymnastics. Powerlifting. Features of Organizing Classes in Higher Educational Institutions [Electronic resource] / Vaseltsova I. A., Belov D. O., Brodetsky A. B., Mostovaya N. V., Averyasova Yu. O. : study guide. - Samara: SAMGUPS, 2019. - 186 p., unlimited copies
2. Grishina, Yu. I. General Physical Training. To Know and To Be Able To Do: [study guide for students of higher educational institutions] / Yu. I. Grishina. - Rostov-on-Don: Phoenix, 2016. - 250 p.: ill. - (Higher Education). - Endorsement: Approved by the UMO. - Bibliogr.: pp. 244-245.
3. Grishina, Yu. I. Student's Physical Culture: study guide: [for students of higher education institutions for the discipline Physical Culture] / Yu. I. Grishina. – Rostov-on-Don: Phoenix, 2019. – 284 p.: ill. – (Higher Education). – Endorsement: Recommended by the NMS. – App.: pp. 271-277. – Bibliogr.: pp. 269-270. – ISBN 978-5-222-31286-5
4. Nebytova L.A. Physical Culture: Study Guide (Course of Lectures)/ L.A. Nebytova, M.V. Katrenko, N.I. Sokolova Stavropol: NCFU, 2017. – 336 p.
5. Sapozhnikova, O.V. Fitness [Electronic resource]: study guide / O.V. Sapozhnikova. - Fitness, 2022-08-31. - Ekaterinburg: Ural Federal University, ELS ASV, 2015. - 144 p.
6. Elective Courses in Physical Culture and Sports: study guide (practicum): / Ministry of Science and Higher Education of the Russian Federation, Federal State Autonomous Educational Institution of Higher Education North-Caucasus Federal University; compilers: M.V. Katrenko, D.I. Savin. - Stavropol: NCFU, 2020. - 152 p. : ill.

Methodological Literature

1. Methodological recommendations for the organization of independent work in Elective Disciplines (Modules) in Physical Culture and Sports, 2026 [Electronic version].
2. Methodological instructions for the performance of practical work in Elective Disciplines (Modules) in Physical Culture and Sports, 2026 [Electronic version].

Internet Resources

1. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
2. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
3. <http://www.fizkulturavshkole.ru/default.htm> Journal Physical Culture at School
4. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture

Information technologies used, including a list of software and information reference systems

Not envisaged

Information Reference Systems

Information-reference and information-legal systems

1. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture:
2. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
3. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks

Software

Special software – not required.

Material and Technical Supplies

- room for therapeutic physical culture;
- open sports ground;
- equipment and inventory: treadmills, dumbbells, barbells, exercise machines, body bars, jump ropes, core mats, mats, medicine balls, hoops, gymnastic sticks, etc.

SEMESTER 4

Topic: IMPROVING THE TECHNIQUE OF MOTOR ACTIONS IN BASIC TYPES OF PHYSICAL CULTURE, SPORTS, AND HEALTH-RECREATIONAL ACTIVITY

Practical Lesson 1, 2.

Introductory Lesson. Safety Briefing.

Aim: To conduct a safety briefing during classes, and to form ideas about strength, as well as the means and methods of its development.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;

- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG (Special Medical Group) students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical Part.

Strength is a person's ability to overcome external resistance or oppose it through muscular efforts (tensions). Strength abilities are a complex of various human manifestations in a specific motor activity, which are based on the concept of strength. Means of developing strength abilities: when developing strength abilities, exercises with increased resistance – strength exercises – are used. Depending on the nature of the resistance, they are subdivided into primary and supplementary. The primary include: exercises with external resistance; bodyweight exercises; isometric exercises; exercises using general-type training devices (exercise machines); jerky-braking exercises. Exercises with external resistance include: exercises with weights (barbells, dumbbells, medicine balls, kettlebells), including those on training devices, which are convenient due to their versatility and selectivity; exercises with a partner; exercises with the resistance of elastic objects (rubber shock absorbers, bands, various expanders, pulley devices, etc.); exercises with external resistance are one of the effective means of developing strength. Methods of developing strength abilities: the maximal effort method; the repeated submaximal effort method; the static (isometric) effort method; the statodynamic method; the isokinetic effort method; the dynamic effort method; the shock (plyometric) method; circuit training; the game method.

Questions and Tasks. Health-Improving Systems of Physical Culture (Optional): Total Body, POWER MIX, Cyclic (Cycling), Body Balance.

- Preparatory Part: General developmental exercises (GDE), flexibility exercises.
- Main Part: Safety briefing during classes. Execution of the health-improving complex.
- Concluding Part: Breathing exercises, self-massage.

Practical Lesson 3, 4, 5, 6, 7.

Learning Health-Oriented Exercise Complexes.

Aim: To improve skills and abilities by means of the health-improving system, and to form ideas about endurance, as well as the means and methods of its development.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;
- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical Part.

Endurance is the ability to resist physical fatigue in the process of muscular activity. The means of developing general (aerobic) endurance are exercises that cause maximum productivity of the cardiovascular and respiratory systems. Muscular work is provided mainly by an aerobic source; the intensity of work can be moderate, high, or variable; the total duration of the exercises ranges from several to dozens of minutes. In the practice of physical education, a wide variety of physical exercises of a cyclic and acyclic nature are used, such as continuous running, cross-country running (cross), cross-country skiing, ice skating, cycling, swimming, games and game exercises, exercises performed by the circuit training method (including 7–8 or more exercises performed at a moderate pace in the circuit), etc. The main methods for developing general endurance are: 1) the continuous (uninterrupted) exercise method with a load of moderate and variable intensity; 2) the repeated interval exercise method; 3) the circuit training method; 4) the game method; 5) the competitive method.

Questions and Tasks.

Health-Improving Systems of Physical Culture (Optional): Total Body, POWER MIX, Cyclic (Cycling), Body Balance.

- Preparatory Part: General developmental exercises (GDE), flexibility exercises.
- Main Part: Execution of the health-improving complex. Low-intensity work. Heart rate (HR) 120–130 bpm for groups A, B, C.
- Concluding Part: Breathing exercises, psychoregulation, flexibility exercises.

Practical Lesson 8, 9, 10, 11, 12.

Execution of Health-Oriented Exercise Complexes.

Aim: To improve skills and abilities by means of the health-improving system, and to form ideas about agility, as well as the means and methods of its development.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;
- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical Part.

Agility implies a person's ability to quickly master new movements or to quickly restructure motor activity in accordance with the requirements of a suddenly changed situation. The development of agility is associated with increasing the ability to perform complex coordinated movements, quickly switching from one motor act to another, and developing the ability to act in the most expedient manner in accordance with suddenly changed conditions or tasks (i.e., the ability to quickly, accurately, and economically solve a complex motor task). The following exercises are considered the most effective means of developing agility: gymnastic, acrobatic, track and field, sports games, martial arts, and downhill skiing. Gymnastic and acrobatic exercises develop analyzer systems, increase vestibular stability, and improve the coordination capabilities of those involved. Specially selected general developmental exercises (GDE) for the coordination and accuracy of movements are particularly effective for developing the coordination of arm movements.

Questions and Tasks. Health-Improving Systems of Physical Culture (Optional): Total Body, POWER MIX, Cyclic (Cycling), Body Balance.

- Preparatory Part: General developmental exercises (GDE), flexibility exercises.
- Main Part: Execution of the health-improving complex. Low-intensity work. Heart rate (HR) 120–130 bpm for groups A, B, C.
- Concluding Part: Breathing exercises, psychoregulation, flexibility exercises.

Practical Lesson 13, 14, 15, 16.

Topic: Learning Exercise Complexes According to Nosology.

Aim: To improve skills and abilities by means of the health-improving system, and to form ideas about speed, as well as the means and methods of its development.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;
- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical Part.

The means of developing speed are exercises performed at maximum or near-maximum velocity, that is, speed exercises. They can be divided into three main groups: 1. Exercises that targetedly affect individual components of speed abilities: a) reaction speed, b) the speed of performing individual movements, c) the improvement of movement frequency, d) the speed of performing integral actions, e) the improvement of starting speed. 2. Exercises of complex (versatile) impact on all main components of speed abilities (for example, sports and active games, relay races, martial arts, etc.). 3. Exercises of combined impact: a) on speed and strength abilities (speed-strength exercises), b) on speed and coordination abilities (speed-coordination exercises), c) on speed abilities and endurance (speed endurance exercises). The primary method for developing a motor reaction is the repeated exercise method. It consists of repeatedly reacting to a suddenly appearing (pre-determined) stimulus with the aim of reducing the reaction time.

Questions and Tasks.

Health-Improving Systems of Physical Culture (Optional): Total Body, POWER MIX, Cyclic (Cycling), Body Balance.

- Preparatory Part: General developmental exercises (GDE), flexibility exercises.

- Main Part: Execution of the health-improving complex. Low-intensity work. Heart rate (HR) 120–130 bpm for groups A, B, C.
- Concluding Part: Breathing exercises, psychoregulation, flexibility exercises.

Practical Lesson 17, 18, 19, 20.

Topic: Execution of Exercise Complexes According to Nosology.

Aim: To improve skills and abilities by means of the health-improving system, and to form ideas about flexibility, as well as the means and methods of its development.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;
- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical Part.

Flexibility is the ability to perform movements with a large amplitude. Exercises that can be performed with maximum amplitude are used as a means of developing flexibility. They are otherwise called stretching exercises. The main limiters of the range of movements are antagonist muscles. Stretching the connective tissue of these muscles, making the muscles pliable and elastic (like a rubber band), is the task of stretching exercises. Among stretching exercises, a distinction is made between active, passive, and static. Active movements with full amplitude (swings of arms and legs, jerks, bends, and rotational movements of the torso) can be performed without objects and with objects (gymnastic sticks, hoops, balls, etc.). Passive flexibility exercises include: movements performed with the help of a partner; movements performed with weights; movements performed with the help of a rubber expander or shock absorber; passive movements using one's own strength (pulling the torso to the legs, bending the hand with the other hand, etc.); movements performed on apparatus (the body's own weight is used as a weight). Static exercises performed with the help of a partner, one's own body weight, or strength require maintaining a stationary

position with maximum amplitude for a certain period of time (6–9 seconds). The game and competitive methods are used to develop and improve flexibility.

Questions and Tasks.

Health-Improving Systems of Physical Culture (Optional): Total Body, POWER MIX, Cyclic (Cycling), Body Balance.

- Preparatory Part: General developmental exercises (GDE), flexibility exercises.
- Main Part: Execution of the health-improving complex. Low-intensity work. Heart rate (HR) 120–130 bpm for groups A, B, C.
- Concluding Part: Breathing exercises, psychoregulation, flexibility exercises.

Practical Lesson 21, 22, 23.

Learning Exercise Complexes Aimed at Body Recovery.

Aim: To improve skills and abilities by means of the health-improving system, and to form ideas about fatigue and its main signs.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;
- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical Part.

Fatigue is the exhaustion of the human body on a physical, psychological, and emotional level. Whereas overfatigue (chronic fatigue) is a prolonged sensation of the feeling of exhaustion, that is, fatigue. The state of overfatigue is a constant feeling for many modern people, due to our rhythm of life and being continuously in a state of stress. Tiredness is a physiological characteristic of the human body, representing a temporary reduction in the body's abilities for full activity. The primary external symptom of tiredness is a deterioration in the quality of work and a decrease in its pace. A sign of fatigue and overfatigue is memory impairment and a decrease in working capacity on a physical level. A person develops apathy and a desire for everyone to leave them

alone. Absent-mindedness of attention occurs. Such a person may need to apply certain efforts to concentrate. All these factors can cause an increase in blood pressure. In this state, people become uncommunicative.

Questions and Tasks.

Health-Improving Systems of Physical Culture (Optional): Total Body, POWER MIX, Cyclic (Cycling), Body Balance.

- Preparatory Part: General developmental exercises (GDE), stretching exercises.
- Main Part: Execution of the health-improving complex. Moderate-intensity work. For groups A, B (HR 130–140 bpm), C (HR 120–130 bpm).
- Concluding Part: Relaxation exercises, analysis of students' educational activity.

Practical Lesson 24, 25, 26.

Execution of Exercise Complexes Aimed at Body Recovery.

Aim: To improve skills and abilities by means of the health-improving system, and to form ideas about overfatigue and means of recovery.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;
- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical Part.

Overfatigue is a pathological state that develops in a person due to chronic physical or psychological overstrain, the clinical picture of which is determined by functional disorders in the central nervous system. Against its background, the body's ability to resist external influences falls, which leads to an increased risk of getting injured or falling ill. Overfatigue does not pass without leaving a trace on the nervous system either. Overfatigue can also affect appetite: a tired person's desire to eat decreases or completely disappears. Consequently, the body receives less

energy – resulting in a vicious circle. With chronic fatigue, intestinal disorders can also be observed. Overfatigue can also trigger, conversely, hyperreactivity of the body. Such a situation leads to an even greater aggravation of the scenario because the body, contrary to logic, begins to expend even more energy, launching a self-destruction mechanism. Pedagogical restorative means are the most effective. Medico-biological means of recovery are also widely used. The general condition of the body is improved by dry-air and steam baths, general manual and hardware massage, air ionization, and baths. Medico-biological means of recovery also include a balanced diet, pharmacological preparations (except banned ones), and vitamins.

Questions and Tasks.

Health-Improving Systems of Physical Culture (Optional): Total Body, POWER MIX, Cyclic (Cycling), Body Balance.

- Preparatory Part: General developmental exercises (GDE), stretching exercises.
- Main Part: Execution of the health-improving complex. Moderate and high-intensity work. For groups A, B, C (HR 140–160 bpm).
- Concluding Part: Breathing exercises, psychoregulation, flexibility exercises.

Practical Lesson 27, 28, 29.

Health-Oriented Exercise Complexes.

Aim: To improve skills and abilities by means of the health-improving system, and to form basic ideas about medical-pedagogical control in the process of health-improving physical culture classes.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;
- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical Part.

According to health status, physical fitness, sex, age, as well as other indicators, this group of participants is distributed into the following medical groups: 1st – practically healthy people who do not seek medical attention with complaints and possess physical fitness sufficient for their age. 2nd – persons with age-related changes accompanied by minor functional deviations with sufficient compensation, or initial forms of diseases often characteristic of the aging process, as well as practically healthy people with insufficient physical fitness. 3rd – persons with reduced functional adaptation, deviations in health status of a permanent or temporary nature, and weak physical fitness. In the absence of contraindications, the examined individual is issued a certificate granting the right to engage in physical exercises in a physical culture and health-recreational group. Depending on the dynamics of health status and physical fitness during regular classes, the participant can be transferred to one medical group or another. An important integral part of medical examinations is medical-pedagogical observations and control over loads. In addition, sanitary-hygienic control over class venues is carried out, and sanitary-educational work is conducted among the participants. All students engaged in physical culture and sports according to the academic schedule or independently must undergo medical examinations. Additional medical check-ups are conducted before competitions, after illnesses, during adverse subjective sensations, or upon referral by the physical education instructor.

Questions and Tasks.

Health-Improving Systems of Physical Culture (Optional): Total Body, POWER MIX, Cyclic (Cycling), Body Balance.

- Preparatory Part: General developmental exercises (GDE), stretching exercises.
- Main Part: Execution of the health-improving complex. Moderate and high-intensity work. For groups A, B, C (HR 140–160 bpm).
- Concluding Part: Breathing exercises, psychoregulation, flexibility exercises.

Practical Lesson 30, 31.

Final Diagnostics of the Functional State of the Body and General Physical Working Capacity of Students with Indicators Dynamics.

Aim: To improve skills and abilities by means of the health-improving system, and to form ideas about the types of organization of physical education.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;
- Rationally combines physical and mental load to ensure working capacity in professional activity;

- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical Part.

Academic work in physical education for students is determined by the programs of the general physical training (GPT) course and sports improvement courses. The GPT course is mandatory for first- and second-year students. Classes are held regularly for two hours per week according to the schedule. The program establishes the volume of material on the theory of physical education, practical classes, and regulatory requirements. The range of theoretical questions to be studied includes: physical education in higher education institutions; primary means of physical education; medical control and self-control; individual gymnastics, its significance, and principles of implementation. The theoretical section of the program aims to familiarize students with the general scientific foundations of physical education for students: theoretical classes—lectures, group theoretical classes, and talks that ensure the completion of the theoretical part of the program. The practical component of the GPT course includes gymnastics, games, track and field, swimming, and skiing; practical classes – GPT lessons, sports training sessions, and competitions in various types of sports, games, and gymnastics that ensure the completion of the practical part of the program. In the process of mastering the GPT course program, students develop a habit of regular physical exercise, and their sports orientation is identified for subsequent improvement in one of the sports during elective classes or in sports sections of the student physical culture collective. Propaganda activities: talks, reports, lectures, sports evenings, consultations; organization of photo displays, exhibitions, albums; use of posters, charts, announcements, and local media.

Questions and Tasks.

Health-Improving Systems of Physical Culture (Optional): Total Body, POWER MIX, Cyclic (Cycling), Body Balance.

- Preparatory Part: General developmental exercises (GDE), flexibility exercises.
- Main Part: Execution of the health-improving complex. Moderate and higher intensity work. HR 140–160 bpm for groups A, B, C, D.
- Concluding Part: Breathing exercises, psychoregulation, flexibility exercises.

Practical Lesson 32.

Control Lesson.

Aim: To identify and correct the functional state of the body of special medical group students in response to physical load.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;
- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Questions and Tasks.

Diagnostics of the functional state of the students' body.

- Preparatory Part: Joint warm-up – 10 minutes.
- Main Part: Execution of diagnostic tests. Filling out the self-control diary for physical development.
- Concluding Part: Exercises for breathing recovery and flexibility development (7–10 minutes). Summary of students' academic activity.

Control Questions for the Semester Topics:

1. Definition of endurance, means and methods of its development.
2. Definition of agility, means and methods of its development.
3. Definition of speed, means and methods of its development.
4. Definition of flexibility, means and methods of its development.
5. Definition of fatigue, overfatigue, and their main signs.
6. Pedagogical and medical control in the process of health-improving physical culture classes.
7. Means and methods of physical education for individuals with health deviations.
8. Health-improving and recreational physical culture.
9. Types of organization of physical education.

10. Forms of conducting physical culture classes.

List of Literature

Main Literature

1. Zenkova, T. A. Professionally Applied Physical Culture of Students [Electronic resource] / Zenkova T. A. : textbook. - 2nd ed., revised. - Rostov-on-Don : RSTU, 2020. - 152 p. - Approved by the University Educational and Methodological Council. - ISBN 978-5-88814-921-8
2. Physical Culture and Sport: textbook for undergraduate and specialist students in all fields of study (UGS) implemented by MGSU / V. A. Nikishkin, N. N. Bumarskova, S. I. Kramskoy [et al.]. - Physical Culture and Sport, 2026-08-04. - Electron. data (1 file). - Moscow : MISI-MGSU, EBS ASV, 2021. - 380 p. - electronic. - The book is in the premium version of EBS IPR BOOKS. - ISBN 978-5-7264-2861-1

Additional Literature

1. Athletic Gymnastics. Powerlifting. Features of Organizing Classes in Higher Educational Institutions [Electronic resource] / Vaseltsova I. A., Belov D. O., Brodetsky A. B., Mostovaya N. V., Averyasova Yu. O. : textbook. - Samara: SamGUPS, 2019. - 186 p., unlimited copies.
2. Grishina, Yu. I. General Physical Training. To Know and to Be Able to: [textbook for students of higher educational institutions] / Yu. I. Grishina. - Rostov-on-Don: Phoenix, 2016. - 250 p.: ill. - (Higher Education). - Endorsement: Approved by the UMO (Educational and Methodological Association). - Bibliogr.: pp. 244-245.
3. Grishina, Yu. I. Student's Physical Culture: textbook: [for students of higher education institutions for the discipline Physical Culture] / Yu. I. Grishina. – Rostov-on-Don: Phoenix, 2019. – 284 p.: ill. – (Higher Education). – Endorsement: Recommended by the NMS (Scientific and Methodological Council). – App.: pp. 271-277. – Bibliogr.: pp. 269-270. – ISBN 978-5-222-31286-5
4. Nebytova L.A. Physical Culture: Textbook (Course of Lectures)./ L.A. Nebytova, M.V. Katrenko, N.I. Sokolova - Stavropol: NCFU, 2017. – 336 p.
5. Sapozhnikova, O.V. Fitness [Electronic resource]: textbook / O.V. Sapozhnikova. - Fitness, 2022-08-31. - Ekaterinburg: Ural Federal University, EBS ASV, 2015. - 144 p.
6. Elective Courses in Physical Culture and Sport: textbook (practicum): / Ministry of Science and Higher Education of the Russian Federation, Federal State Autonomous Educational Institution of Higher Education North-Caucasus Federal University; compilers: M.V. Katrenko, D.I. Savin. - Stavropol: NCFU, 2020. - 152 p. : ill.

Methodological Literature

1. Methodological recommendations for organizing independent work in Elective Disciplines (Modules) in Physical Culture and Sport, 2026 [Electronic version].
2. Methodological guidelines for performing practical works in Elective Disciplines (Modules) in Physical Culture and Sport, 2026 [Electronic version].

Internet Resources

1. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
2. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
3. <http://www.fizkulturavshkole.ru/default.htm> Journal Physical Culture in School
4. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture

Information Technologies, Including Software and Information Reference Systems

Not envisaged

Information Reference Systems

Information-reference and information-legal systems

1. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture
2. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
3. Professional Database of Rosstat // Access mode:
http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/databases/

Software. Special software – not required.

Material and Technical Supplies for the Discipline

- medical physical culture hall (rehabilitative fitness room);
- open sports ground;
- equipment and inventory: treadmills, dumbbells, barbells, exercise machines, body bars, jump ropes, core mats, exercise mats, medicine balls, hoops, gymnastic sticks, etc.

SEMESTER 5

Topic: IMPROVING THE TECHNIQUE OF MOTOR ACTIONS IN BASIC TYPES OF PHYSICAL CULTURE, SPORTS, AND HEALTH-RECREATIONAL ACTIVITY

Practical Lesson 1, 2.

Introductory Lesson. Safety Briefing.

Aim: To conduct a safety briefing during classes, and to form ideas about strength, as well as the means and methods of its development.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;

- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG (Special Medical Group) students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical Part.

Strength is a person's ability to overcome external resistance or oppose it through muscular efforts (tensions). Strength abilities are a complex of various human manifestations in a specific motor activity, which are based on the concept of strength. Means of developing strength abilities: when developing strength abilities, exercises with increased resistance – strength exercises – are used. Depending on the nature of the resistance, they are subdivided into primary and supplementary. The primary include: exercises with external resistance; bodyweight exercises; isometric exercises; exercises using general-type training devices (exercise machines); jerky-braking exercises. Exercises with external resistance include: exercises with weights (barbells, dumbbells, medicine balls, kettlebells), including those on training devices, which are convenient due to their versatility and selectivity; exercises with a partner; exercises with the resistance of elastic objects (rubber shock absorbers, bands, various expanders, pulley devices, etc.); exercises with external resistance are one of the effective means of developing strength. Methods of developing strength abilities: the maximal effort method; the repeated submaximal effort method; the static (isometric) effort method; the statodynamic method; the isokinetic effort method; the dynamic effort method; the shock (plyometric) method; circuit training; the game method.

Questions and Tasks.

Health-Improving Systems of Physical Culture (Optional): Total Body, POWER MIX, Cyclic (Cycling), Body Balance.

- Preparatory Part: General developmental exercises (GDE), flexibility exercises.
- Main Part: Safety briefing during classes. Execution of the health-improving complex.
- Concluding Part: Breathing exercises, self-massage.

Practical Lesson 3, 4, 5, 6, 7.

Learning Health-Oriented Exercise Complexes.

Aim: To improve skills and abilities by means of the health-improving system, and to form ideas about endurance, as well as the means and methods of its development.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;
- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical Part.

Endurance is the ability to resist physical fatigue in the process of muscular activity. The means of developing general (aerobic) endurance are exercises that cause maximum productivity of the cardiovascular and respiratory systems. Muscular work is provided mainly by an aerobic source; the intensity of work can be moderate, high, or variable; the total duration of the exercises ranges from several to dozens of minutes. In the practice of physical education, a wide variety of physical exercises of a cyclic and acyclic nature are used, such as continuous running, cross-country running (cross), cross-country skiing, ice skating, cycling, swimming, games and game exercises, exercises performed by the circuit training method (including 7–8 or more exercises performed at a moderate pace in the circuit), etc. The main methods for developing general endurance are: 1) the continuous (uninterrupted) exercise method with a load of moderate and variable intensity; 2) the repeated interval exercise method; 3) the circuit training method; 4) the game method; 5) the competitive method.

Questions and Tasks.

Health-Improving Systems of Physical Culture (Optional): Total Body, POWER MIX, Cyclic (Cycling), Body Balance.

- Preparatory Part: General developmental exercises (GDE), flexibility exercises.
- Main Part: Execution of the health-improving complex. Low-intensity work. Heart rate (HR) 120–130 bpm for groups A, B, C.
- Concluding Part: Breathing exercises, psychoregulation, flexibility exercises.

Practical Lesson 8, 9, 10, 11, 12.

Health-Oriented Exercise Complexes.

Aim: To improve skills and abilities by means of the health-improving system, and to form ideas about agility, as well as the means and methods of its development.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;
- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical Part.

Agility implies a person's ability to quickly master new movements or to quickly restructure motor activity in accordance with the requirements of a suddenly changed situation. The development of agility is associated with increasing the ability to perform complex coordinated movements, quickly switching from one motor act to another, and developing the ability to act in the most expedient manner in accordance with suddenly changed conditions or tasks (i.e., the ability to quickly, accurately, and economically solve a complex motor task). The following exercises are considered the most effective means of developing agility: gymnastic, acrobatic, track and field, sports games, martial arts, and downhill skiing. Gymnastic and acrobatic exercises develop analyzer systems, increase vestibular stability, and improve the coordination capabilities of those involved. Specially selected general developmental exercises (GDE) for the coordination and accuracy of movements are particularly effective for developing the coordination of arm movements.

Questions and Tasks.

Health-Improving Systems of Physical Culture (Optional): Total Body, POWER MIX, Cyclic (Cycling), Body Balance.

- Preparatory Part: General developmental exercises (GDE), flexibility exercises.
- Main Part: Execution of the health-improving complex. Low-intensity work. Heart rate (HR) 120–130 bpm for groups A, B, C.

- Concluding Part: Breathing exercises, psychoregulation, flexibility exercises.

Practical Lesson 13, 14, 15, 16, 17.

Exercise Complexes According to Nosology.

Aim: To improve skills and abilities by means of the health-improving system, and to form ideas about speed, as well as the means and methods of its development.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;
- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical Part.

The means of developing speed are exercises performed at maximum or near-maximum velocity, that is, speed exercises. They can be divided into three main groups: 1. Exercises that affect individual components of speed abilities: a) reaction speed, b) the speed of performing individual movements, c) the improvement of movement frequency, d) the speed of performing integral actions, e) the improvement of starting speed. 2. Exercises of complex (versatile) impact on all main components of speed abilities (for example, sports and active games, relay races, martial arts, etc.). 3. Exercises of combined impact: a) on speed and strength abilities (speed-strength exercises), b) on speed and coordination abilities (speed-coordination exercises), c) on speed abilities and endurance (speed endurance exercises). The primary method for developing a motor reaction is the repeated exercise method. It consists of repeatedly reacting to a suddenly appearing (pre-determined) stimulus with the aim of reducing the reaction time.

Questions and Tasks.

Health-Improving Systems of Physical Culture (Optional): Total Body, POWER MIX, Cyclic (Cycling), Body Balance.

- Preparatory Part: General developmental exercises (GDE), flexibility exercises.

- Main Part: Execution of the health-improving complex. Low-intensity work. Heart rate (HR) 120–130 bpm for groups A, B, C.
- Concluding Part: Breathing exercises, psychoregulation, flexibility exercises.

Practical Lesson 18, 19, 20, 21, 22.

Exercise Complexes According to Nosology.

Aim: To improve skills and abilities by means of the health-improving system, and to form ideas about flexibility, as well as the means and methods of its development.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;
- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical Part.

Flexibility is the ability to perform movements with a large amplitude. Exercises that can be performed with maximum amplitude are used as a means of developing flexibility. They are otherwise called stretching exercises. The main limiters of the range of movements are antagonist muscles. Stretching the connective tissue of these muscles, making the muscles pliable and elastic (like a rubber band), is the task of stretching exercises. Among stretching exercises, a distinction is made between active, passive, and static. Active movements with full amplitude (swings of arms and legs, jerks, bends, and rotational movements of the torso) can be performed without objects and with objects (gymnastic sticks, hoops, balls, etc.). Passive flexibility exercises include: movements performed with the help of a partner; movements performed with weights; movements performed with the help of a rubber expander or shock absorber; passive movements using one's own strength (pulling the torso to the legs, bending the hand with the other hand, etc.); movements performed on apparatus (the body's own weight is used as a weight). Static exercises performed with the help of a partner, one's own body weight, or strength require maintaining a stationary

position with maximum amplitude for a certain period of time (6–9 seconds). The game and competitive methods are used to develop and improve flexibility.

Questions and Tasks.

Health-Improving Systems of Physical Culture (Optional): Total Body, POWER MIX, Cyclic (Cycling), Body Balance.

- Preparatory Part: General developmental exercises (GDE), flexibility exercises.
- Main Part: Execution of the health-improving complex. Low-intensity work. Heart rate (HR) 120–130 bpm for groups A, B, C.
- Concluding Part: Breathing exercises, psychoregulation, flexibility exercises.

Practical Lesson 23, 24, 25, 26.

Exercise Complexes Aimed at Body Recovery.

Aim: To improve skills and abilities by means of the health-improving system, and to form ideas about fatigue and its main signs.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;
- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical Part.

Fatigue is the exhaustion of the human body on a physical, psychological, and emotional level. Whereas overfatigue (chronic fatigue) is a prolonged sensation of the feeling of exhaustion, that is, fatigue. The state of overfatigue is a constant feeling for many modern people, due to our rhythm of life and being continuously in a state of stress. Tiredness is a physiological characteristic of the human body, representing a temporary reduction in the body's abilities for full activity. The primary external symptom of tiredness is a deterioration in the quality of work and a decrease in its pace. A sign of fatigue and overfatigue is memory impairment and a decrease in working capacity on a physical level. A person develops apathy and a desire for everyone to leave them

alone. Absent-mindedness of attention occurs. Such a person may need to apply certain efforts to concentrate. All these factors can cause an increase in blood pressure. In this condition, people become uncommunicative.

Questions and Tasks.

Health-Improving Systems of Physical Culture (Optional): Total Body, POWER MIX, Cyclic (Cycling), Body Balance.

- Preparatory Part: General developmental exercises (GDE), stretching exercises.
- Main Part: Execution of the health-improving complex. Moderate-intensity work. For groups A, B (HR 130–140 bpm), C (HR 120–130 bpm).
- Concluding Part: Relaxation exercises, analysis of students' educational activity.

Practical Lesson 27, 28, 29, 30.

Performing Exercise Complexes Aimed at Body Recovery.

Aim: To improve skills and abilities by means of the health-improving system, and to form ideas about overfatigue and means of recovery.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;
- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical Part.

Overfatigue is a pathological state that develops in a person due to chronic physical or psychological overstrain, the clinical picture of which is determined by functional disorders in the central nervous system. Against its background, the body's ability to resist external influences falls, which leads to an increased risk of getting injured or falling ill. Overfatigue does not pass without leaving a trace on the nervous system either. Overfatigue can also affect appetite: a tired person's desire to eat decreases or completely disappears. Consequently, the body receives less energy – resulting in a vicious circle. With chronic fatigue, intestinal disorders can also be

observed. Overfatigue can also trigger, conversely, hyperreactivity of the body. Such a situation leads to an even greater aggravation of the scenario because the body, contrary to logic, begins to expend even more energy, launching a self-destruction mechanism. Pedagogical restorative means are the most effective. Medico-biological means of recovery are also widely used. The general condition of the body is improved by dry-air and steam baths, general manual and hardware massage, air ionization, and baths. Medico-biological means of recovery also include a balanced diet, pharmacological preparations (except banned ones), and vitamins.

Questions and Tasks.

Health-Improving Systems of Physical Culture (Optional): Total Body, POWER MIX, Cyclic (Cycling), Body Balance.

- Preparatory Part: General developmental exercises (GDE), stretching exercises.
- Main Part: Execution of the health-improving complex. Moderate and high-intensity work. For groups A, B, C (HR 140–160 bpm).
- Concluding Part: Breathing exercises, psychoregulation, flexibility exercises.

Practical Lesson 31, 32, 33.

Performing Health-Oriented Exercise Complexes.

Aim: To improve skills and abilities by means of the health-improving system, and to form basic ideas about medical-pedagogical control in the process of health-improving physical culture classes.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;
- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical Part.

According to health status, physical fitness, sex, age, as well as other indicators, this group of participants is distributed into the following medical groups: 1st – practically healthy people

who do not seek medical attention with complaints and possess physical fitness sufficient for their age. 2nd – persons with age-related changes accompanied by minor functional deviations with sufficient compensation, or initial forms of diseases often characteristic of the aging process, as well as practically healthy people with insufficient physical fitness. 3rd – persons with reduced functional adaptation, deviations in health status of a permanent or temporary nature, and weak physical fitness. In the absence of contraindications, the examined individual is issued a certificate granting the right to engage in physical exercises in a physical culture and health-recreational group. Depending on the dynamics of health status and physical fitness during regular classes, the participant can be transferred to one medical group or another. An important integral part of medical examinations is medical-pedagogical observations and control over loads. In addition, sanitary-hygienic control over class venues is carried out, and sanitary-educational work is conducted among the participants. All students engaged in physical culture and sports according to the academic schedule or independently must undergo medical examinations. Additional medical check-ups are conducted before competitions, after illnesses, during adverse subjective sensations, or upon referral by the physical education instructor.

Questions and Tasks.

Health-Improving Systems of Physical Culture (Optional): Total Body, POWER MIX, Cyclic (Cycling), Body Balance.

- Preparatory Part: General developmental exercises (GDE), stretching exercises.
- Main Part: Execution of the health-improving complex. Moderate and high-intensity work. For groups A, B, C (HR 140–160 bpm).
- Concluding Part: Breathing exercises, psychoregulation, flexibility exercises.

Practical Lesson 34, 35.

Final Diagnostics of the Functional Status of the Body and General Physical Working Capacity in Students with Dynamics of Indicators.

Aim: To improve skills and abilities by means of the health-improving system, and to form ideas about the types of organization of physical education.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;
- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical Part.

Academic work in physical education for students is determined by the programs of the general physical training (GPT) course and sports improvement courses. The GPT course is mandatory for first- and second-year students. Classes are held regularly for two hours per week according to the schedule. The program sets the volume of material on the theory of physical education, practical classes, and regulatory requirements. The range of theoretical questions to be studied includes: physical education in higher education institutions; primary means of physical education; medical control and self-control; individual gymnastics, its significance, and principles of implementation. The theoretical section of the program aims to familiarize students with the general scientific foundations of physical education for students: theoretical classes—lectures, group theoretical classes, and talks that ensure the completion of the theoretical part of the program. The practical component of the GPT course includes gymnastics, games, track and field, swimming, and skiing; practical classes—GPT lessons, sports training sessions, and competitions in various types of sports, games, and gymnastics that ensure the completion of the practical part of the program. In the process of mastering the GPT course program, students develop a habit of regular physical exercise, and their sports orientation is identified for subsequent improvement in one of the sports during elective classes or in sports sections of the student physical culture collective. Propaganda activities: talks, reports, lectures, sports evenings, consultations; organization of photo displays, exhibitions, albums; use of posters, charts, announcements, and local media.

Questions and Tasks.

Health-Improving Systems of Physical Culture (Optional): Total Body, POWER MIX, Cyclic (Cycling), Body Balance.

- Preparatory Part: General developmental exercises (GDE), flexibility exercises.
- Main Part: Execution of the health-improving complex. Moderate and higher intensity work. HR 140–160 bpm for groups A, B, C, D.
- Concluding Part: Breathing exercises, psychoregulation, flexibility exercises.

Practical Lesson 36

Topic: Control Lesson.

Aim: To identify and correct the functional state of the body of special medical group students in response to physical load.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;
- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Questions and Tasks.

Diagnostics of the functional state of the students' body.

- Preparatory Part: Joint warm-up – 10 minutes.
- Main Part: Execution of diagnostic tests. Filling out the self-control diary for physical development.
- Concluding Part: Exercises for breathing recovery and flexibility development (7–10 minutes). Summary of students' academic activity.

Control Questions

1. Definition of endurance, means and methods of its development.
2. Definition of agility, means and methods of its development.
3. Definition of speed, means and methods of its development.
4. Definition of flexibility, means and methods of its development.
5. Definition of fatigue, overfatigue, and their main signs.
6. Pedagogical and medical control in the process of health-improving physical culture classes.
7. Means and methods of physical education for individuals with health deviations.
8. Health-improving and recreational physical culture.
9. Types of organization of physical education.

10. Types of physical culture classes.

Literature

Main Literature

1. Zenkova, T. A. Professionally Applied Physical Culture of Students [Electronic resource] / Zenkova T. A. : textbook. - 2nd ed., revised. - Rostov-on-Don : RSTU, 2020. - 152 p. - Approved by the University Educational and Methodological Council. - ISBN 978-5-88814-921-8
2. Physical Culture and Sport: textbook for undergraduate and specialist students in all fields of study (UGS) implemented by MGSU / V. A. Nikishkin, N. N. Bumarskova, S. I. Kramskoy [et al.]. - Physical Culture and Sport, 2026-08-04. - Electron. data (1 file). - Moscow : MISI-MGSU, EBS ASV, 2021. - 380 p. - electronic. - The book is in the premium version of EBS IPR BOOKS. - ISBN 978-5-7264-2861-1

Additional Literature

1. Athletic Gymnastics. Powerlifting. Features of Organizing Classes in Higher Educational Institutions [Electronic resource] / Vaseltsova I. A., Belov D. O., Brodetsky A. B., Mostovaya N. V., Averyasova Yu. O. : textbook. - Samara: SamGUPS, 2019. - 186 p., unlimited copies.
2. Grishina, Yu. I. General Physical Training. To Know and to Be Able to: [textbook for students of higher educational institutions] / Yu. I. Grishina. - Rostov-on-Don: Phoenix, 2016. - 250 p.: ill. - (Higher Education). - Endorsement: Approved by the UMO (Educational and Methodological Association). - Bibliogr.: pp. 244-245.
3. Grishina, Yu. I. Student's Physical Culture: textbook: [for students of higher education institutions for the discipline Physical Culture] / Yu. I. Grishina. – Rostov-on-Don: Phoenix, 2019. – 284 p.: ill. – (Higher Education). – Endorsement: Recommended by the NMS (Scientific and Methodological Council). – App.: pp. 271-277. – Bibliogr.: pp. 269-270. – ISBN 978-5-222-31286-5
4. Nebytova L.A. Physical Culture: Textbook (Course of Lectures)./ L.A. Nebytova, M.V. Katrenko, N.I. Sokolova - Stavropol: NCFU, 2017. – 336 p.
5. Sapozhnikova, O.V. Fitness [Electronic resource]: textbook / O.V. Sapozhnikova. - Fitness, 2022-08-31. - Ekaterinburg: Ural Federal University, EBS ASV, 2015. - 144 p.
6. Elective Courses in Physical Culture and Sport: textbook (practicum): / Ministry of Science and Higher Education of the Russian Federation, Federal State Autonomous Educational Institution of Higher Education North-Caucasus Federal University; compilers: M.V. Katrenko, D.I. Savin. - Stavropol: NCFU, 2020. - 152 p. : ill.

Methodological Literature

1. Methodological recommendations for organizing independent work in Elective Disciplines (Modules) in Physical Culture and Sport, 2026 [Electronic version].
2. Methodological guidelines for performing practical works in Elective Disciplines (Modules) in Physical Culture and Sport, 2026 [Electronic version].

Internet Resources

1. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
2. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
3. <http://www.fizkulturavshkole.ru/default.htm> Journal Physical Culture in School
4. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture

Information Technologies, Including Software and Information Reference Systems

Not envisaged

Information Reference Systems

Information-reference and information-legal systems

1. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture
2. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
3. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
4. Professional Database of Rosstat // Access mode:
http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/databases/

Software

Special software – not required.

Material and Technical Supplies

- medical physical culture hall (rehabilitation fitness room);
- open sports ground;
- equipment and inventory: treadmills, dumbbells, barbells, exercise machines, body bars, jump ropes, core mats, exercise mats, medicine balls, hoops, gymnastic sticks, etc.

SEMESTER 6

Topic: DEVELOPMENT OF PHYSICAL AND MORPHOFUNCTIONAL ABILITIES OF THE BODY BY MEANS OF BASIC TYPES OF PHYSICAL CULTURE, SPORTS, AND HEALTH-RECREATIONAL ACTIVITY

Practical Lesson 1

Introductory Lesson. Safety Briefing During Classes.

Aim: To organize the process of physical culture education in groups, and to deliver a safety briefing during classes.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;
- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Questions and Tasks.

- Preparatory Part: Joint warm-up – 10 minutes.
- Main Part: To form an idea about determining the intensity of a load based on the heart rate. Execution of diagnostic tests. Filling out the self-control diary for physical development.
- Concluding Part: Exercises for breathing recovery and flexibility development (7–10 minutes).

Practical Lesson 2, 3.

Diagnostics of the Functional State of the Body and General Physical Working Capacity of Students.

Aim: To identify and correct the functional state of the body of special medical group students in response to physical load.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;
 - Rationally combines physical and mental load to ensure working capacity in professional activity;
 - Maintains the proper level of physical fitness to ensure full social and professional activity.
- Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Questions and Tasks.

- Preparatory Part: Joint warm-up – 10 minutes.
- Main Part: To form an idea about determining the intensity of a load based on the heart rate. Execution of diagnostic tests. Filling out the self-control diary for physical development.
- Concluding Part: Exercises for breathing recovery and flexibility development (7–10 minutes). Summary of students' academic activity.

Practical Lesson 4, 5, 6, 7, 8.

Execution of Health-Oriented Exercise Complexes.

Aim: To improve skills and abilities by means of health-improving walking, and to form ideas about the history of Nordic walking.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;
- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical Part.

Nordic walking is a relatively new, gaining popularity type of health-improving physical culture, which was patented by a Finn, Marko Kantaneva, in 1997 under the name original Nordic walking. This variant of fitness walking appeared in Finland (which is why it is also called Finnish walking) several decades ago, or more precisely, in the 1940s. The idea itself of walking with poles belongs to Finnish cross-country skiers, who initially used ordinary ski poles. Subsequently, it turned out that athletes who trained intensively in the summer by walking with poles achieved significantly higher results in ski competitions in the winter. With the light hand of the athletes, walking with poles began to spread in the Scandinavian countries and then in Northwestern Europe, gaining particular popularity in Germany, where even special tracks were created for this sport. Marko Kantaneva developed and published the first guide to original Nordic walking, while significantly modifying the structure of the poles. Thanks to his inventions, the popularity of walking with poles took a new turn – the original type of physical culture became widely widespread in many countries around the world, and now millions of people engage in it across the globe. In recent years, the number of adherents of this fitness variation has been growing in Russia as well.

Questions and Tasks.

Nordic walking. Health-improving walking. Health-improving complexes: Soft fitness, Cyclic (Cycling).

- Preparatory Part: Joint warm-up – 7 minutes.
- Main Part: Health-improving walking: duration – 30 minutes, pace of steps per minute – 80, distance length – 1.8 km. Features of walking technique. Repetition of the health-improving complex. GPT (General Physical Training) for the development of lagging physical qualities. Low-intensity work, HR 110–120 bpm for groups A, B, C.
- Concluding Part: Exercises for relaxation, flexibility, and psychoregulation.

Practical Lesson 9, 10, 11, 12, 13.

Execution of Exercise Complexes Aimed at Body Recovery.

Aim: To improve skills and abilities by means of health-improving walking, and to form ideas about Nordic walking and its core principles.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;

- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical Part.

What is Nordic walking? Core principles. This is a form of physical activity in which natural walking is enhanced by the addition and active use of specially designed poles. The physical load is distributed in a balanced way across the muscle groups of the entire body. NW is based on the following fundamental principles: safe, biomechanically correct movements; correct body position and correct posture; natural smooth movements involving the muscles of the upper and lower body; symmetrical and integral training of the entire body; activation of large and small muscle groups; continuous alternation of muscle activation/tension and relaxation; selection of exercises to fit an individual's needs/capabilities; wide audience reach – accessibility of classes for (implicitly) everyone, regardless of age, sex, or physical condition. Just as bodybuilding stands on three main pillars – nutrition, training, and recovery – so NW is supported by 3 pillars: correct walking technique; correct body position; correct use of the poles.

Questions and Tasks.

Nordic walking. Health-improving walking. Health-improving complexes: Soft fitness, Cyclic (Cycling).

- Preparatory Part: GPT (General Physical Training). Strength and speed-strength exercises of a versatile orientation, development of lagging physical qualities – 15–20 minutes.
- Main Part: Health-improving walking: duration – 45 minutes, pace of steps per minute – 85, distance length – 2.5 km. Repetition of the health-improving complex with learning new elements. Low-intensity work, HR 110–120 bpm for groups A, B, C.
- Concluding Part: 1. Exercises for breathing recovery, relaxation, and flexibility. 2. Summary of academic activity.

Practical Lesson 14, 15.

Final Diagnostics of the Functional State of the Body and General Physical Working Capacity of Students with Dynamics of Indicators.

Aim: To improve skills and abilities by means of the health-improving system, and to form ideas about the types of organization of physical education.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;
- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical Part.

Academic work in physical education for students is determined by the programs of the general physical training (GPT) course and sports improvement courses. The GPT course is mandatory for first- and second-year students. Classes are held regularly for two hours per week according to the schedule. The program establishes the volume of material on the theory of physical education, practical classes, and regulatory requirements. The range of theoretical questions to be studied includes: physical education in higher education institutions; primary means of physical education; medical control and self-control; individual gymnastics, its significance, and principles of implementation. The theoretical section of the program aims to familiarize students with the general scientific foundations of physical education for students: theoretical classes—lectures, group theoretical classes, and talks that ensure the completion of the theoretical part of the program. The practical component of the GPT course includes gymnastics, games, track and field, swimming, and skiing; practical classes—GPT lessons, sports training sessions, and competitions in various types of sports, games, and gymnastics that ensure the completion of the practical part of the program. In the process of mastering the GPT course program, students develop a habit of regular physical exercise, and their sports orientation is identified for subsequent improvement in one of the sports during elective classes or in sports sections of the student physical culture collective. Propaganda activities: talks, reports, lectures, sports evenings, consultations; organization of photo displays, exhibitions, albums; use of posters, charts, announcements, and local media.

Questions and Tasks.

Health-Improving Systems of Physical Culture (Optional): Total Body, POWER MIX, Cyclic (Cycling), Body Balance.

- Preparatory Part: General developmental exercises (GDE), flexibility exercises.
- Main Part: Execution of the health-improving complex. Moderate and higher intensity work. HR 140–160 bpm for groups A, B, C, D.
- Concluding Part: Breathing exercises, psychoregulation, flexibility exercises.

Practical Lesson 16

Topic: Control Lesson.

Aim: To identify and correct the functional state of the body of special medical group students in response to physical load.

Planned Outcomes

- Demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full social and professional activity;
- Rationally combines physical and mental load to ensure working capacity in professional activity;
- Maintains the proper level of physical fitness to ensure full social and professional activity.

Relevance: It is connected with the application of health-improving systems of physical exercises for the versatile development of physical abilities, health construction, harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring energy expended during studies, and increasing the body's resistance to the effects of adverse environmental factors.

Questions and Tasks.

Diagnostics of the functional state of the students' body.

- Preparatory Part: Joint warm-up – 10 minutes.
- Main Part: Execution of diagnostic tests. Filling out the self-control diary for physical development.
- Concluding Part: Exercises for breathing recovery and flexibility development (7–10 minutes). Summary of students' academic activity.

Control Questions:

1. Definition of endurance, means and methods of its development.
2. Definition of agility, means and methods of its development.

3. Definition of speed, means and methods of its development.
4. Definition of flexibility, means and methods of its development.
5. Definition of fatigue, overfatigue, and their main signs.
6. Pedagogical and medical control in the process of health-improving physical culture classes.
7. Means and methods of physical education for individuals with health deviations.
8. Health-improving and recreational physical culture.
9. Types of organization of physical education.
10. Forms of conducting physical culture classes.

Literature

Main Literature

1. Zenkova, T. A. Professionally Applied Physical Culture of Students [Electronic resource] / Zenkova T. A. : textbook. - 2nd ed., revised. - Rostov-on-Don : RSTU, 2020. - 152 p. - Approved by the University Educational and Methodological Council. - ISBN 978-5-88814-921-8
2. Physical Culture and Sport: textbook for undergraduate and specialist students in all fields of study (UGS) implemented by MGSU / V. A. Nikishkin, N. N. Bumarskova, S. I. Kramskoy [et al.]. - Physical Culture and Sport, 2026-08-04. - Electron. data (1 file). - Moscow : MISI-MGSU, EBS ASV, 2021. - 380 p. - electronic. - The book is in the premium version of EBS IPR BOOKS. - ISBN 978-5-7264-2861-1

Additional Literature

1. Athletic Gymnastics. Powerlifting. Features of Organizing Classes in Higher Educational Institutions [Electronic resource] / Vaseltsova I. A., Belov D. O., Brodetsky A. B., Mostovaya N. V., Averyasova Yu. O. : textbook. - Samara: SamGUPS, 2019. - 186 p., unlimited copies.
2. Grishina, Yu. I. General Physical Training. To Know and to Be Able to: [textbook for students of higher educational institutions] / Yu. I. Grishina. - Rostov-on-Don: Phoenix, 2016. - 250 p.: ill. - (Higher Education). - Endorsement: Approved by the UMO (Educational and Methodological Association). - Bibliogr.: pp. 244-245.
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5. Sapozhnikova, O.V. Fitness [Electronic resource]: textbook / O.V. Sapozhnikova. - Fitness, 2022-08-31. - Ekaterinburg: Ural Federal University, EBS ASV, 2015. - 144 p.
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Methodological Literature:

1. Methodological recommendations for organizing independent work in Elective Disciplines (Modules) in Physical Culture and Sport, 2026 [Electronic version].
2. Methodological guidelines for performing practical works in Elective Disciplines (Modules) in Physical Culture and Sport, 2026 [Electronic version].

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1. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
2. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
3. <http://www.fizkulturavshkole.ru/default.htm> Journal Physical Culture in School
4. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture

Information Technologies, Including Software and Information Reference Systems

Not envisaged

Information Reference Systems

Information-reference and information-legal systems

1. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture
2. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
3. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
4. Professional Database of Rosstat // Access mode:
http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/databases/

Special

Special software – not required.

Material and Technical Supplies for the Discipline

- medical physical culture hall (rehabilitative fitness room);
- open sports ground;
- equipment and inventory: treadmills, dumbbells, barbells, exercise machines, body bars, jump ropes, core mats, exercise mats, medicine balls, hoops, gymnastic sticks, etc.

SEMESTER 7

Topic: MAINTAINING AN APPROPRIATE LEVEL OF PHYSICAL FITNESS TO ENSURE FULL-FLEDGED SOCIAL AND PROFESSIONAL ACTIVITY

Practical Lesson 1

Introductory lesson. Safety briefing during classes.

Aim: to improve skills and abilities by means of a health-improving system, to form concepts of recreation as a type of health-improving physical culture.

Planned learning outcomes of the theme within the framework of the competencies being shaped:

- demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental workload to ensure performance capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance of the theme of the practical lesson is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG (special medical group) students, restoring the energy spent in the process of studying, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical part.

Physical recreation (recreation – rest, entertainment) is the use of any types of motor activity (physical exercises, games, physical labor, etc.) for the purposes of physical development and health promotion. Its characteristic feature is complete subordination to the interests, tastes, and inclinations of a given person or group of people. In this regard, there is complete freedom of choice regarding the type and nature of activities, their frequency and duration, time of day, content, means, methods, and forms of organization. Here, the person themselves is the designer and architect, methodologist and coach, controller and accountable party. All this is precisely one of the criteria and indicators of their general and physical culture. The general aim of physical recreation is to strengthen physical and mental health thus creating a foundation for fruitful mental

and physical labor. Its specific tasks are highly diverse and depend on the personal tastes and desires of the participants.

Questions and tasks

Health-improving systems of physical culture (optional): Total Body, POWER MIX, Cyclic (cycle), Body balance.

- Preparatory part. HR measurement. Walking in place, with elements of aerobics – 8 minutes. HR measurement after workload. Posture exercises – 6 repetitions. Exercises for the neck muscles: remain in this position for 10-20 seconds, then rest for 10 seconds, and repeat in the other direction, 8 repetitions in total.
- Main part. Introduction to new exercises of the complex. Performance of the health-improving complex: exercises for posture, stretching of the muscles of the neck, arms, torso, abdomen, back, and legs. Low-intensity work for groups A (HR 110-120 bpm), B, C (HR 120-130 bpm).
- Concluding part. Stretching exercises (seated straddle, legs together, various forward bends, torso twists from a lying position, etc.), HR measurement.

Practical Lesson 2,3.

Diagnostics of the functional state of the body and general physical performance capacity of students.

Aim: to improve skills and abilities by means of a health-improving system, to form concepts of the history of development of health-improving physical culture.

Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental workload to ensure performance capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is

aimed at improving the health of SMG students, restoring the energy spent in the process of studying, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical part.

The history of using physical exercises for therapeutic and preventive purposes spans several millennia. The earliest sources mentioning the therapeutic effect of movements and massage were found in China: these were manuscripts dating back to 3000-2000 BC. They indicated that in Ancient China there were medical-gymnastic schools where therapeutic gymnastics and massage were taught, as well as the methodology of their application in treating patients. Passive movements, resistance exercises, and breathing exercises were used for diseases of the respiratory organs, circulatory system, and for surgical conditions (dislocations, fractures, spinal curvatures). Since 1800 BC, physical exercises began to be used in India. The sacred books of the Vedas show the significance of passive and active movements, breathing exercises, and massage in the treatment of various diseases. The use of physical exercises for therapeutic purposes became widespread in Ancient Greece. One of the founders of modern medicine, the ancient Greek physician and philosopher Hippocrates (459-377 BC), asserted in his works that a moderate lifestyle, reasonable gymnastics, fresh air, and walks, which he called food for life, were necessary to prolong life. Hippocrates described the effect and methodology of applying physical exercises for certain diseases of the heart, lungs, endocrine system, and surgical conditions. Some believe that the creator of medical gymnastics was the physician Herodicus (484-425 BC), who used metered walks, running, gymnastics, and massage to treat patients. Entire generations of physicians, philosophers, and thinkers of Ancient Greece emphasized in their works the importance of physical exercises for prolonging life and treating diseases. A number of Russian scientists (V.K. Dobrovolsky, V.N. Moshkov, et al.) divide the period of formation and development of therapeutic physical culture in our country into several stages. The first stage (1917-1930) was the emergence of therapeutic physical culture and its initial development. The second stage (1931-1941) was a relatively rapid transition from empiricism to a scientific justification for the use of therapeutic physical culture (exercise therapy / LFK); the publication of serious methodological guides (V.V. Gorinevsky, I.M. Sarkizov-Serazini, V.K. Dobrovolsky, E.F. Dreving, et al.). The third stage of LFK development (1941-1945) was its widespread use in the treatment and rehabilitation of the wounded and sick during the Great Patriotic War. The development of therapeutic physical culture in our country was facilitated by the successes of clinical medicine in studying the pathogenesis of pathological conditions, as well as the participation of specialists from specialized departments of a number of research institutes of the Academy of Medical Sciences and the Ministry of Health of the USSR in the development of problems in LFK. Scientific research into the action of physical exercises began to be conducted

using the most modern methods and express diagnostics. In all hospitals and clinics of the country, LFK rooms or departments began to operate, which were engaged not only in treating patients – the best of them became bases for scientific and practical work of the departments of medical universities and institutes for advanced training of physicians. Simultaneously, in all physical culture universities, departments of therapeutic physical culture and medical control continued to operate or were opened.

Questions and tasks

Health-improving systems of physical culture (optional): Total Body, POWER MIX, Cyclic (cycle), Body balance.

- Preparatory part. HR measurement. Walking in place, with elements of aerobics – 8 minutes. HR measurement after workload. Posture exercises – 6 repetitions. Exercises for the neck muscles: remain in this position for 10-20 seconds, then rest for 10 seconds, and repeat in the other direction, 8 repetitions in total.
- Main part. Performance of the health-improving complex: exercises for the torso muscles – hold for 10-20 seconds, for the leg and back muscles – hold for 20-30 seconds, 3-4 repetitions. Exercises for stretching the back muscles – 6-8 times in each direction. Exercises for stretching and coordination – hold for 20-30 seconds, repeat 6-8 times. Exercises for the back and arm muscles – 6 times, stretching exercises (from a lying position on the back, on the stomach, torso twists, etc.) – hold from 10 to 30 seconds. Repeat 6-8 times. Low-intensity work for groups A (HR 110-120 bpm), B, C (HR 120-130 bpm).
- Concluding part. Stretching exercises. HR measurement. Summarizing the results of the lesson.

Practical Lesson 4,5,6,7,8.

Performance of complexes of health-oriented exercises.

Aim: to improve skills and abilities by means of a health-improving system, to form concepts of biorhythms and performance capacity.

Planned learning outcomes:

- demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental workload to ensure performance capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring the energy spent in the process of studying, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical part.

Biorhythms are more or less regular changes in the nature and intensity of biological processes. The capacity for such changes in vital activity is inherited and has been detected in practically all living organisms. They can be observed in individual cells, tissues, and organs, and in populations. Biorhythms are subdivided into physiological and ecological. Physiological rhythms, as a rule, have periods ranging from fractions of a second to several minutes. These include, for example, the rhythms of pressure, heartbeats, and arterial blood pressure. There are data on the influence, for example, of the Earth's magnetic field on the period and amplitude of a human encephalogram. The period (frequency) of a physiological rhythm can vary within wide limits depending on the degree of functional load (from 60 heartbeats/min at rest to 180-200 heartbeats/min during performance of work). The rhythms of life are conditioned by physiological processes in the body, natural, and social factors: the change of seasons, time of day, the state of solar activity and cosmic radiation, the rotation of the Moon around the Earth (and the location and influence of planets on each other), the alternation of sleep and wakefulness, work processes and rest, physical activity and passive rest. All organs and functional systems of the body have their own rhythms, measured in seconds, weeks, months, and years. Interacting with each other, the biorhythms of individual organs and systems form an orderly system of rhythmic processes, which organizes the activity of the entire body in time. The term physical performance capacity means the potential ability of a person to perform a maximum of mechanical work. In ordinary conditions of life and professional activity, a person uses only a small part of their physical performance capacity. At a higher level, it manifests itself in sports and in the struggle for life under dangerous conditions. The level of physical performance capacity is highly individual and depends on many factors: sex, age, health status, physical activity, sports specialization, etc.

Questions and tasks

Health-improving systems of physical culture (optional): Total Body, POWER MIX, Cyclic (cycle), Body balance.

- Preparatory part. HR measurement. Walking in place, with elements of aerobics – 8 minutes. HR measurement after workload. Posture exercises – 6 repetitions. Exercises for the neck

muscles: remain in this position for 10-20 seconds, then rest for 10 seconds, and repeat in the other direction, 8 repetitions in total.

- Main part. Performance of the health-improving complex: exercises for the torso muscles – hold for 10-20 seconds, for the leg and back muscles – hold for 20-30 seconds, 3-4 repetitions. Exercises for stretching the back muscles – 6-8 times in each direction. Exercises for stretching and coordination – hold for 20-30 seconds, repeat 6-8 times. Exercises for the back and arm muscles – 6 times, stretching exercises (from a lying position on the back, on the stomach, torso twists, etc.) – hold from 10 to 30 seconds. Repeat 6-8 times. Low-intensity work for groups A (HR 110-120 bpm), B, C (HR 120-130 bpm).
- Concluding part. Stretching exercises. HR measurement. Summarizing the results of the lesson.

Practical Lesson 9,10,11,12. Performance of complexes of Total Body and Body balance exercises.

Aim: to improve skills and abilities by means of a health-improving system, to form concepts of the main forms of health-improving physical culture.

Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental workload to ensure performance capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity. The relevance of the theme of the practical lesson is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring the energy spent in the process of studying, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical part.

According to the degree of influence on the body, all types of health-improving physical culture (depending on the structure of movements) can be divided into two large groups: exercises of a cyclic and acyclic character. Cyclic exercises are such motor acts in which the same completed motor cycle is continuously repeated for a long time. These include walking, running, cross-country skiing, cycling, swimming, and rowing. In acyclic exercises, the structure of movements

does not have a stereotypical cycle and changes in the course of their performance. These include gymnastic and strength exercises, jumps, throws, sports games, and martial arts. Acyclic exercises exert a predominant influence on the functions of the musculoskeletal system, as a result of which muscle strength, reaction speed, flexibility and mobility in the joints, and the lability of the neuromuscular apparatus are increased. The types with the predominant use of acyclic exercises include hygienic and occupational gymnastics, classes in health groups and general physical preparation (GPP / OFP), rhythmic and athletic gymnastics, and gymnastics according to the Hatha Yoga system.

Questions and tasks

Health-improving systems of physical culture (optional): Total Body, POWER MIX, Cyclic (cycle), Body balance.

- Preparatory part. HR measurement. Walking in place, with elements of aerobics – 8 minutes. HR measurement after workload. Posture exercises – 8 repetitions. Exercises for the neck muscles: remain in this position for 20 seconds, then rest for 5 seconds, and repeat in the other direction, 8 repetitions in total.
- Main part. Performance of the health-improving complex: exercises for stretching arm muscles – hold for 20 seconds, 3-4 repetitions. Exercises for the torso muscles – hold for 20 seconds, for the leg and back muscles – hold for 30 seconds, 6 repetitions. Exercises for stretching the back muscles – 10 times in each direction. Exercises for stretching and coordination – hold for 30 seconds, repeat 8 times. Exercises for the back muscles – 6 times, stretching exercises (from a lying position on the back, on the stomach, torso twists, etc.) – hold from 20 to 30 seconds. Repeat 10 times. Moderate-intensity work for groups A (HR 130-140 bpm), B, C (HR 120-130 bpm).
- Concluding part. Stretching exercises. HR measurement. Summarizing the results of the lesson.

Practical Lesson 13,14,15. Performance of complexes of POWER MIX exercises.

Aim: to improve skills and abilities by means of a health-improving system, to form concepts of the structure of health-improving training.

Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental workload to ensure performance capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring the energy spent in the process of studying, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical part.

Health-improving training has certain differences from sports training. While sports training provides for the use of physical workloads in order to achieve maximum results in a chosen sport, health-improving training uses them to increase or maintain the level of physical capacity and health. The main focus of health-improving physical culture is to improve the functional state of the body and physical fitness. However, to achieve a pronounced health-improving effect, physical exercises must be accompanied by a significant expenditure of energy and give a long, uniform load to the respiratory and circulatory systems that ensure the delivery of oxygen to tissues, i.e., have a pronounced aerobic orientation. The effectiveness of physical exercises of a health-improving nature is determined by the frequency and duration of classes, the intensity and nature of the means used, and the work and rest regime. In order for physical education classes with a health-improving orientation to have only a positive effect on a person, it is necessary to observe a number of methodological rules: the gradual buildup of the intensity and duration of workloads; the variety of applied means; the systematic nature of classes. In health-improving training, to increase physical performance capacity at a young age, preference should be given to exercises that improve various types of endurance (general, special). The most expedient and rational is two-to-three weekly sessions of health-improving physical culture.

Questions and tasks

Health-improving systems of physical culture (optional): Total Body, POWER MIX, Cyclic (cycle), Body balance.

- Preparatory part. HR measurement. Walking in place, with elements of aerobics – 8 minutes. HR measurement after workload. Posture exercises – 8 repetitions. Exercises for the neck muscles: remain in this position for 20 seconds, then rest for 5 seconds, and repeat in the other direction, 8 repetitions in total.
- Main part. Performance of the health-improving complex: exercises for stretching arm muscles – hold for 20 seconds, 3-4 repetitions. Exercises for the torso muscles – hold for 20 seconds, for the leg and back muscles – hold for 30 seconds, 6 repetitions. Exercises for stretching the back muscles – 10 times in each direction. Exercises for stretching and coordination – hold for

30 seconds, repeat 8 times. Exercises for the back muscles – 6 times, stretching exercises (from a lying position on the back, on the stomach, torso twists, etc.) – hold from 20 to 30 seconds. Repeat 10 times. Moderate-intensity work for groups A (HR 130-140 bpm), B, C (HR 120-130 bpm).

- Concluding part. Stretching exercises. HR measurement. Summarizing the results of the lesson.

Practical Lesson 16,17. Final diagnostics of the functional state of the body and general physical performance capacity of students with indicator dynamics.

Aim: to improve skills and abilities by means of a health-improving system, to form concepts of the means of a special health-improving orientation.

Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental workload to ensure performance capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring the energy spent in the process of studying, and increasing the body's resistance to the effects of adverse environmental factors.

Theoretical part.

Most often, the preventive and health-improving effect of physical training is associated with the use of exercises of moderate (aerobic orientation) intensity. In this regard, recommendations for the use of cyclic exercises (running, cycling, rowing, cross-country skiing, etc.) for health-improving purposes have become widespread. Cyclic exercises involve the largest muscle groups in the work (1/5 to 1/2 or more of the muscle mass), requiring a significant amount of oxygen and, therefore, developing predominantly the cardiovascular and respiratory systems. A good state of these systems forms the foundation of human health. Most specialists recommend the predominant (up to 90-100%) use of endurance exercises in health training programs. Health

walking is the most accessible type of physical exercise. It can be recommended to people of all ages who have different levels of fitness and health status. Walking is especially useful for people who lead a low-activity lifestyle. During walking, muscles, the cardiovascular, and respiratory systems are trained. By means of walking, one can relieve tension and calm the nervous system. The health-improving effect of walking consists in increasing the contractility of the myocardium, increasing the diastolic volume of the heart, and venous return of blood to the heart. Health running exerts a comprehensive influence on all functions of the body, on respiratory and cardiac activity, on the musculoskeletal apparatus, and the psyche. Swimming. The health-improving significance of swimming lies in the fact that it is one of the effective means of human cold-exposure training, which increases the body's resistance to the effects of temperature fluctuations and colds. Cycling strengthens the cardiovascular and respiratory systems. When cycling for health, it is necessary to ride at least 3 times a week, continuously for at least 30 minutes, with a heart rate of 60% of the maximum. Jumping rope strengthens the cardiovascular and respiratory systems; it contributes to the development of the strength and endurance of the leg muscles. In order to achieve an aerobic training effect, it is necessary to jump for at least 15 minutes per training session, at least 3 times a week. If the aim is to get rid of excess weight, then it is necessary to jump continuously for 30 minutes.

Questions and tasks

Health-improving systems of physical culture (optional): Total Body, POWER MIX, Cyclic (cycle), Body balance.

- Preparatory part. HR measurement. Walking in place, with elements of aerobics – 8 minutes. HR measurement after workload. Posture exercises – 8 repetitions. Exercises for the neck muscles: remain in this position for 25 seconds, then rest for 5 seconds, and repeat in the other direction, 8 repetitions in total.
- Main part. Performance of the health-improving complex: exercises for stretching arm muscles, slow wall squats – 6 repetitions. Exercises for the torso muscles – hold for 25 seconds, for the leg and back muscles – hold for 25 seconds, 8 repetitions. Exercises for stretching the back muscles – 10 times in each direction. Exercises for stretching and coordination – hold for 25 seconds, repeat 10 times. Exercises for the back muscles – 8 times, stretching exercises (from a lying position on the back, on the stomach, torso twists, etc.) – hold up to 30 seconds. Repeat 10 times. Moderate-intensity work for groups A (HR 130-140 bpm), B, C (HR 120-130 bpm).
- Concluding part. Stretching exercises. HR measurement. Summarizing the results of the lesson.

Practical Lesson 18. Control lesson.

Aim: assessment of knowledge, skills, and abilities acquired by students as a result of mastering the lesson themes during the academic year.

Planned outcomes:

- demonstrates knowledge of health-saving technologies and physiological characteristics of the body to ensure full-fledged social and professional activity;
- rationally combines physical and mental workload to ensure performance capacity in professional activity;
- maintains an appropriate level of physical fitness to ensure full-fledged social and professional activity.

The relevance of the theme of the practical lesson is associated with the use of health-improving systems of physical exercises for the versatile development of physical abilities, the construction of health, the harmonious development of physical capabilities, as well as the process-activity component of an individual's physical culture. The study of the means and methods of health-improving physical culture is aimed at improving the health of SMG students, restoring the energy spent in the process of studying, and increasing the body's resistance to the effects of adverse environmental factors.

Questions and tasks

- Preparatory part. General developmental exercises.
- Main part. Submission of the self-control log on physical development. Performance of exercises for lagging physical qualities.
- Concluding part. Exercises for breath recovery and flexibility development (7-10 minutes). Summarizing the results of the students' educational activities for the academic year.

Control questions

1. Develop a concept of recreation as a type of health-improving physical culture.
2. The history of development of health-improving physical culture.
3. Biorhythms and performance capacity.
4. Develop a concept of the main forms of health-improving physical culture.
5. Develop a concept of the structure of health-improving training and the means of a special health-improving orientation.
6. Mental self-regulation.
7. Develop a concept of the basics of nutrition.
8. Cold-exposure training as a means of health restoration.

9. Develop a concept of self-massage, massage, and its types.
10. Develop a concept of the theory of cleansing and restoring the body.
11. Develop a concept of the influence of tobacco substances, alcohol, and narcotic substances on the human body.
12. Develop a concept of the basics of providing first pre-medical aid.

Literature

Main Literature

1. Zenkova, T. A. Professionally-Applied Physical Culture of Students [Electronic resource] / Zenkova T. A. : study guide. - 2nd ed., enlarged. - Rostov-on-Don : RSTU (RGUPS), 2020. - 152 p. - Approved by the educational and methodological council of the university. - ISBN 978-5-88814-921-8
2. Physical Culture and Sport: textbook for students of bachelor's and specialist's programs for all PGSN (Fields of Study and Specializations) implemented by NRU MGSU / V. A. Nikishkin, N. N. Bumarskova, S. I. Kramskoy [et al.]. - Physical Culture and Sport, 2026-08-04. - Electron. data (1 file). - Moscow : MISI-MGSU, ELS ASV (EBS ASV), 2021. - 380 p. - electronic. - The book is located in the premium version of ELS IPR BOOKS. - ISBN 978-5-7264-2861-1

Additional Literature

1. Athletic Gymnastics. Powerlifting. Features of Organizing Classes in a Higher Educational Institution [Electronic resource] / Vaseltsova I. A., Belov D. O., Brodetsky A. B., Mostovaya N. V., Averyasova Yu. O. : study guide. - Samara: SamSTU (SamGUPS), 2019. - 186 p., unlimited copies
2. Grishina, Yu. I. General Physical Preparation. To Know and Be Able to Do: [study guide for students of higher educational institutions] / Yu. I. Grishina. - Rostov-on-Don: Phoenix, 2016. - 250 p.: ill. - (Higher Education). - Endorsement: Appr. UMO. - Bibliogr.: p. 244-245.
3. Grishina, Yu. I. Physical Culture of the Student: study guide: [for students of higher education institutions for the discipline Physical Culture] / Yu. I. Grishina. - Rostov-on-Don: Phoenix, 2019. - 284 p.: ill. - (Higher Education). - Endorsement: Rec. NMS. - Appendix: p. 271-277. - Bibliogr.: p. 269-270. - ISBN 978-5-222-31286-5
4. Nebytova L.A. Physical Culture: Study Guide (Course of Lectures). / L.A. Nebytova, M.V. Katrenko, N.I. Sokolova Stavropol: NCFU (SKFU), 2017. - 336 p.
5. Sapozhnikova, O.V. Fitness [Electronic resource]: study guide / O.V. Sapozhnikova. - Fitness, 2022-08-31. - Yekaterinburg: Ural Federal University, ELS ASV (EBS ASV), 2015. - 144 p.

6. Elective Courses in Physical Culture and Sport: study guide (practicum): / Ministry of Science and Higher Education of the Russian Federation, Federal State Autonomous Educational Institution of Higher Education North-Caucasus Federal University; compilers: M.V. Katrenko, D.I. Savin. - Stavropol: NCFU (SKFU), 2020. - 152 p. : ill.

Methodological Literature

1. Methodological recommendations for organizing independent work in Elective Disciplines (Modules) in Physical Culture and Sport, 2026 [Electronic version].
2. Methodological guidelines for performing practical works in Elective Disciplines (Modules) in Physical Culture and Sport, 2026 [Electronic version].

Internet Resources

1. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
2. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
3. <http://www.fizkulturavshkole.ru/default.htm> Journal Physical Culture in School
4. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture

Information technologies, including a list of software and information reference systems
Not envisaged

Information Reference Systems

Information-reference and information-legal systems

5. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture:
6. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
7. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
8. Professional Database of Rosstat // Access mode:
http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/databases/

Software

Special software – not required.

Material and Technical Supplies

- therapeutic physical culture hall;
- open sports ground;
- equipment and inventory: treadmills, dumbbells, barbells, exercise equipment, bodybars, jump ropes, fitness mats, exercise mats, medicine balls, hoops, gymnastic sticks, etc.

MINISTRY OF SCIENCE AND HIGHER EDUCATION OF THE RUSSIAN
FEDERATION

Federal State Autonomous Educational Institution of Higher Education
NORTH-CAUCASUS FEDERAL UNIVERSITY

Methodological Guidelines

For arranging students' independent work in Elective disciplines (modules) in physical culture
and sport

(special medical group)

for students of all fields of study and specializations

Stavropol, 2026

TABLE OF CONTENTS

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3. Schedule for independent work
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7. Methodological guidelines for preparation for the exam
8. List of recommended literature
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INTRODUCTION

Aim of mastering the discipline: the development of an individual's physical culture and the ability for targeted use of various means of physical culture and sport to preserve and strengthen health, physical preparation, and self-preparation to ensure full-fledged future professional activity.

Objectives:

- maintaining and improving students' health, facilitation of the correct and comprehensive development of the body, maintenance of high performance capacity throughout the entire period of study;
- being aware of the social significance of physical culture, sport, and their role in personality development and preparation for professional activity;
- knowledge of the scientific-biological, pedagogical, and practical foundations of physical culture and a healthy lifestyle;
- shaping a motivational-value attitude toward physical culture, an orientation toward a healthy lifestyle, physical improvement, and self-education of the habit of regular physical exercise and sport;
- mastering a system of practical skills and abilities that ensure the preservation and strengthening of health, mental well-being, the development and improvement of psychophysical abilities, qualities, and traits of the personality, self-determination in physical culture and sport;
- acquisition of personal experience in increasing motor and functional capabilities, ensuring general and professionally-applied physical fitness for a future profession and everyday life.

The methodological recommendations contain material for independent classes in Elective Disciplines (Modules) in Physical Culture and Sport, developed in accordance with the requirements of the Federal State Educational Standard of Higher Education. The order, logic, and specifics of studying the themes of the educational discipline Elective Disciplines (Modules) in Physical Culture and Sport are disclosed, and tasks are described with the aim of disseminating the most effective, rational options and patterns of actions as applied to physical culture and sport. The discipline Elective Disciplines (Modules) in Physical Culture and Sport is included in the part formed by the participants of educational relations and is studied in the 2nd-7th semesters.

Students' independent work shapes the following competencies:

Code and definition of the competency	Code and definition of the achievement indicator (AI)	Planned learning outcomes for the discipline (module) describing the stages of competency and indicator development
UC-7 Capable of maintaining an appropriate level of physical fitness to ensure full social and professional activity	AI-1 UC-7 selects health-saving technologies for full-scale social and professional activity in view of the physiological specifics of the body and the living conditions	Reveals the knowledge of health-saving technologies for full-scale social and professional activity
	AI-2 UC-7. Plans their working and free time for an optimal combination of physical and mental workload and ensuring work capacity in professional activity	Rationally combines physical and mental workload to ensure work capacity in professional activity
	AI-3 UC-7. Maintains a proper level of physical fitness to ensure full-fledged social and professional activity and adheres to the norms of a healthy lifestyle	Maintains an appropriate level of physical fitness to ensure full-scale social and professional activity

GENERAL CHARACTERISTICS OF THE STUDENT'S INDEPENDENT WORK WHEN STUDYING THE DISCIPLINES

Subject to the curriculum, the students' independent work provides for the study of the themes of the discipline according to the methodological recommendations presented below. The methodological support of independent work in the discipline includes:

1. Identifying the academic questions that students must study independently.
2. Selecting the necessary educational literature mandatory for study and working through.
3. Searching for additional scientific literature that students can use if they develop an interest in this theme.
4. Determining control questions that allow students to independently check the quality of the knowledge obtained.
5. Arranging consultations between the teacher and students to clarify questions that caused difficulties for students during the independent mastery of the educational material.

Students' independent work is a specially organized activity, which includes the following components:

- understanding the aim and the set educational task;
- clear and systematic planning of independent work;

- searching for the necessary educational and scientific information;
- mastering one's own information and its logical processing;
- using research work methods to solve the set tasks;
- developing one's own position regarding the received task;
- presentation, justification, and defense of the obtained solution; conducting self-analysis and self-control.

Types of independent work in the educational discipline:

- work with the conceptual apparatus;
- search work with various sources;
- compiling an annotated bibliography on the problem; preparation of reports on the theme.

Control of students' knowledge implies current control. Current control is carried out in the process of studying the discipline and includes the assessment of students' work in practical lessons.

While working independently, the student must: master the minimum content of the discipline allocated for independent work and proposed by the teacher in accordance with the federal state educational standard of higher education; plan independent work in accordance with the schedule of independent work proposed by the teacher; the student must carry out independent work in the organizational forms provided for by the curriculum and the work program; perform independent work and report on its results in accordance with the schedule for presenting results, types, and deadlines of reporting on the independent work of master's students.

The main types of student independent work in the discipline are: studying literature on the themes of the discipline, preparing for practical lessons, and preparing for the performance of creative tasks.

SCHEDULE FOR INDEPENDENT WORK					
Codes of competencies	Type of activity	Final product of independent work	Technologies and means of evaluating	Total hours, incl.	
				Independent	Total
Semester 2					
UC-7	Preparing a report	Report	Report	4	4
Total in Semester 2				4	4

CHECKPOINTS AND TYPES OF REPORTING

Not envisaged within the curriculum

METHODOLOGICAL RECOMMENDATIONS FOR STUDYING THEORETICAL MATERIAL

Successful mastery of the discipline Elective Courses in Physical Culture and Sport, takes independent studying of the presented themes using the recommended information sources presented in the literature list.

During this, it is recommended to take notes on the educational material.

During the study of literature on the discipline's themes, note-taking of sources is recommended. The results of note-taking can be presented in various forms. A plan is an outline of the read material, a brief (or detailed) list of questions reflecting the structure and sequence of the material.

A detailed plan fully replaces an abstract. An abstract (or summary notes) is a systematized, logical presentation of the source material.

It is important to pay attention to categories and formulations that reveal the content of certain phenomena and processes, scientific conclusions, and practical recommendations. While preparing for the themes of the discipline, it is necessary to study the main literature and get to know additional literature as well as new issues in periodicals: journals, newspapers, etc.

METHODOLOGICAL GUIDELINES (BY TYPES OF WORK)

Methodological recommendations for independent studying of the discipline's themes for completing creative tasks

1. Physical culture in the hierarchy of values of general culture and human history.
2. Physical culture of the student's personality.
3. Science-based organization of labor and physical culture in the self-education of a future specialist.
4. Scientific-theoretical foundations of a healthy lifestyle.
5. Scientific-theoretical foundations of physical education.
6. Foundations of sports training.
7. Scientific-theoretical and methodological foundations of health-improving physical culture.
8. Content of various systems of breathing gymnastics.
9. Socio-biological foundations of physical culture.
10. Self-control of persons engaged in physical exercises and sport.
11. Physiological mechanisms and patterns of improving individual body systems under the influence of targeted physical training.
12. Foundations of a student's healthy lifestyle. The role of physical culture in maintaining health.
13. Psychophysiological foundations of academic labor and intellectual activity. Means of physical culture in the regulation of performance capacity.
14. General physical, special, and sports preparation in the system of physical education.
15. Foundations of the methodology of independent physical exercise sessions. Physical culture in the professional activity of a bachelor and a specialist.
16. Indications and contraindications for physical exercise sessions in various diseases (of the cardiovascular system, respiratory system, gastrointestinal tract, musculoskeletal system, vision, etc.).
17. Content of health-saving technologies in the system of general and higher education.

METHODOLOGICAL GUIDELINES FOR PREPARATION FOR THE EXAM Not provided for by the curriculum LIST OF RECOMMENDED LITERATURE

List of literature

Main Literature

1. Zenkova, T. A. Professionally-Applied Physical Culture of Students [Electronic resource] / Zenkova T. A. : study guide. - 2nd ed., enlarged. - Rostov-on-Don : RSTU (RGUPS), 2020. -

152 p. - Approved by the educational and methodological council of the university. - ISBN 978-5-88814-921-8

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Additional Literature

1. Athletic Gymnastics. Powerlifting. Features of Organizing Classes in a Higher Educational Institution [Electronic resource] / Vasetsova I. A., Belov D. O., Brodetsky A. B., Mostovaya N. V., Averyasova Yu. O. : study guide. - Samara: SamSTU (SamGUPS), 2019. - 186 p., unlimited copies
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6. Elective Courses in Physical Culture and Sport: study guide (practicum): / Ministry of Science and Higher Education of the Russian Federation, Federal State Autonomous Educational Institution of Higher Education North-Caucasus Federal University; compilers: M.V. Katrenko, D.I. Savin. - Stavropol: NCFU (SKFU), 2020. - 152 p. : ill.

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2. Methodological guidelines for performing practical works in Elective Disciplines (Modules) in Physical Culture and Sport, 2026 [Electronic version].

Internet Resources

7. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
8. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
9. <http://www.fizkulturavshkole.ru/default.htm> Journal Physical Culture in School
10. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture

Information technologies used, including a list of software and information reference systems
Not envisaged

Information Reference Systems

Information-reference and information-legal systems

1. <http://www.teoriya.ru/ru> Theory and Practice of Physical Culture:
2. <http://elibrary.ru/defaultx.asp> Scientific Electronic Library eLIBRARY.RU
3. <http://www.iprbookshop.ru/> Electronic Library System IPRbooks
4. Professional Database of Rosstat // Access mode:
http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/databases/

Software

Special software – not required.

Material and Technical Supplies

- therapeutic physical culture hall;
- open sports ground;
- equipment and inventory: treadmills, dumbbells, barbells, exercise equipment, bodybars, jump ropes, fitness mats, exercise mats, medicine balls, hoops, gymnastic sticks, etc.

METHODOLOGICAL GUIDELINES FOR TERM PAPERS

Not envisaged within the curriculum.

Requirements regarding formatting reports

A report, as a form of control over students' independent work, is a brief presentation of a scientific problem from an historical perspective contained in one or more works.

The total volume of the work is 7-15 pages of printed text (including the title page, table of contents, and list of literature) on A4 size paper, on one side of the sheet.

Structural parts of the work reflecting the essence of the research must be compositionally highlighted in the text: introduction, main part, and conclusion, as well as headings and subheadings.

The purpose of the work is to acquire skills in working with literature, summarizing literature sources and practical material on the theme, the ability to competently present questions of the theme, and draw conclusions.

The report shall contain: a title page, table of contents, introduction, main part, conclusion, list of literature (containing at least 3 sources), and appendices (as necessary).

The report begins with a table of contents, which indicates the page numbers for individual chapters.

The introduction should reflect the place of the issue under consideration from the point of view of historical and scientific-methodological problems (justify the choice of this theme, briefly tell why exactly it interested the author). In the main part, the material on the theme of the report is presented in a logical sequence. There must be references to the literature used in the text. In the case of literal reproduction of material, each quotation must have a reference to the corresponding position in the list of used literature indicating page numbers, for example [12, p.56] or In the work [11], ... are considered.

At the beginning of the main part, it is advisable to include several introductory paragraphs that directly introduce the theme of the report, and at the end, to summarize and draw a conclusion for each chapter or section.

For clarity of presentation, it is advisable to accompany the report with figures and tables, to which there must be corresponding references in the text.

All illustrations in the report must be numbered. The numbering must be continuous, that is, through the entire work. If there is only a single illustration in the work, it is not numbered. In the text, references are made to the illustrations containing the ordinal numbers under which the illustrations are placed in the report.

References in the text to the number of a figure, table, page, or chapter are written abbreviated and without the symbol №, for example: Fig. 3, Table 4, p. 34, Ch. 2, see Figure 5 or the graph ... is shown in Figure 2. If the specified words are not accompanied by an ordinal number, then they should be written in the text in full, without abbreviations, for example it can be seen from the figure that..., the table shows that..., etc.

Photographs, drawings, maps, and diagrams can be formatted as an appendix to the work.

All tables, if there are several of them, are numbered with Arabic numerals throughout the entire text. Above the upper right corner of the table, the inscription Table... is placed, indicating

the ordinal number of the table (for example, Table 4) without the № sign before the digit and a period after it.

If there is only one table in the text of the report, then a number is not assigned to it and the word table is not written.

Tables are provided with headings, which are located in the middle of the page and written with a capital letter without a period at the end.

The concluding part of the report must contain a brief summary of the material reviewed, highlighting the most reliable and substantiated provisions and assertions, as well as the most problematic ones developed at the level of hypotheses, the importance of the problem reviewed from the point of view of practical application, worldview, ethics, etc. In this part, the author summarizes the work, performs a brief analysis, and formulates conclusions.

At the end of the work, a list of the literature used is attached; the literature sources are numbered and arranged in alphabetical order (the list of literature must contain at least 3 sources).

The report must be performed on one side of a sheet of white A4 paper (210x297 mm). The line spacing is one and a half (1.5). The font color is black. The font family of the main text is Times New Roman. The font size is 14 points. Page margin dimensions: right - 30 mm, top and bottom - 20 mm, left - from 10 to 15 mm. Paragraph format: full alignment (justified). The indent of the first line must be identical throughout the text. Pages must be numbered taking into account the title page, which is not marked with a digit. The names of chapters and subheadings must be highlighted. The font size for the names of chapters and subheadings is 14 (bold). A period is not placed at the end of a heading. Headings are not to be underlined. Paragraphs begin on a new line and are printed with an indent of 1.25 centimeters. The table of contents (content) must be placed at the beginning of the work.