SOUTHWEST UNIVERISTY "NEOFIT RILSKI"

FACULTY "PUBLIC HEALTH,HEALTHCARE AND SPORT "

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"FACULTY OF PUBLIC HEALTH, HEALTH CARE AND SPORT"

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SPECIALTY «SPORT KINESIOLOGY»

EDUCATIONAL QUALIFICATION DEGREE

«MASTER»

INFORMATION

PACKAGE

2025

MINISTRY OF EDUCATION AND SCIENCE
SOUTHWEST UNIVERISTY "NEOFIT RILSKI"
FACULTY "PUBLIC HEALTH,HEALTHCARE AND SPORT "

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RECTOR: ***PROF. NIKOLAY MARIN PHD***

QUALIFICATION CHARACTERISTICS

AREA OF HIGHER EDUCATION: **7. HEALTHCARE AND SPORT**

PROFESSIONAL FIELD : **7.4 PUBLIC HEALTH**

SPECIALTY: **SPORT KINESIOLOGY**

DEGREE: **MASTER**
LEVEL OF THE NATIONAL QUALIFICATION FRAMEWORK **GRADE 7**
NUMBER OF ECTS CREDES: **60**

PROFESSIONAL QUALIFICATION: **SPORT KINESIOLOGYST**

PERIOD OF TRAINING : **1 (ONE) YEAR**
FORM OF EDUCATION : **REGULAR**
INTRODUCED FROM: 2025-2026

CODE: 09.09_4.10.20

Blagoevgrad, 2025

QUALIFICATION CHARACTERISTICS

OF THE SPECIALTY:

SPORTS KINESIOLOGY

FOR EDUCATIONAL QUALIFICATION DEGREE: **MASTER**

WITH PROFESSIONAL QUALIFICATION: **SPORTS KINESIOLOGIST**

The Master's program in Sports Kinesiology is oriented towards the science of movement - Kinesiology and is intended for specialists whose professional qualification acquired in a bachelor's program may be different, but to one degree or another is related to physical activity, physical activity and sports training. In world practice, the teaching of kinesiology is widely represented in bachelor's, master's and doctoral programs, which are differentiated by different criteria. For example, there are those in which the profiling disciplines are focused on research aspects and competencies for conducting modern scientific research (Science Kinesiology). In others, kinesiological aspects in the field of arts are considered, which concern the development of motor habits, specifics of movements and motor control of volitional movements when playing musical instruments, singing and verbal activity, plastic arts, etc. (Art Kinesiology). In some Kinesiology programs, training and professional competencies focus on the field of systematic exercise and workload in sport (Sport Science Kinesiology).

The training guidelines in the master's program in Sports Kinesiology, which is accredited in SWU "Neofit Rilski" are methodological and research aspects of physical activity, systematic training and functional research to assess the level of training, as well as some applied aspects of this multidiscipline. area.

The training in the master's program in Sports Kinesiology is similar to that in the master's program in Kinesiology, but the differences are determined by: (1) the need to differentiate the candidates from bachelor's specialists with sports-pedagogical qualification, from those with health specialties and legal capacity for therapy; (2) the presence of disciplines that build on the biological background of students who have graduated in pedagogical and sports specialties; and (3) the existence of disciplines related to the health, interdisciplinary and social aspects of physical activity and sport.

I. RECEPTION AND TRAINING

In the master's program in "Sports Kinesiology" can be admitted persons who have completed a bachelor's degree and a master's degree in the specialties (1) Kinesitherapy from

the professional field of Public Health “, As well as: the specialties (2) Sports - Coach in вид (sport) and (3) Coach in physical education and sports in the system of the Ministry of Interior and BA from the professional field“ Sports ”, field of higher education Health and sports; (4) "Physical education and sports" and "Pedagogy of physical education" from the professional field "Pedagogy of education" from the field of higher education Pedagogical sciences. This master's program is designed to train individuals with an affinity for multidisciplinary and interdisciplinary knowledge, functional research and specialized training on various aspects of human motor activity and related research. The format of training is regular. Duration - 2 semesters, 675 hours of classroom employment and 1,125 hours of extracurricular employment; 60 ECTS credits; Completion of the educational qualification degree "Master" provides: STATE THEORETICAL EXAM OR DEFENSE OF THESIS.

EDUCATIONAL OBJECTIVES OF THE MASTER OF SPORTS KINESIOLOGY:

(1) to enrich and develop the training of specialists who have completed bachelor's programs related to competencies in physical activity, kinesitherapy and training in physical education and sports with knowledge of the movement of a healthy person and athlete, through profiling disciplines that have fundamental theoretical significance such as : tutoring in anatomy, biochemistry of physical activity, etc., which are preceded by a course in general biology;

(2) to continue the training of students through profiling disciplines on modern functional research in the field of sports and kinesitherapy, offering lecture courses and practical exercises in spiroergometry, isokinetic dynamometry, kinesiological myography, assessment of aerobic and anaerobic capacity, determination of anaerobes threshold, running economy tests, etc.

(3) to provide their training on methodological-practical and applied disciplines related to exercise, systematic training, the consequences of the hypokinetic way of life, overtraining, training, as well as the connection between physical activity, nutrition and health;

(4) to provide knowledge on the methodology and experimental approaches in conducting kinesiological research, preparation of literature review, selection of research groups, parametric and non-parametric statistical analysis, data interpretation, etc.

(5) to enrich the knowledge of these specialists on a wide range of activities related to motor activity, movement analysis and kinesiological aspects, as well as building motor habits in various sports, applied areas such as dance arts, vocal training and breathing, and etc.

(6) to provide training on social, legal and managerial aspects of activities related to sports, specifics of sports disciplines, physical work, physical activity, etc.

II. KNOWLEDGE, SKILLS AND COMPETENCES

Master of Sports Kinesiology who have completed a master's program must have:

(1) General training in subjects and sections such as biology, methodology for conducting scientific research, parametric and non-parametric statistical analysis of kinesiological data, preparation of standards in sports, etc., which provide training in other profiling disciplines, etc .;

(2) Special training in profiling, medico-biological disciplines related to movements and systemic physical activity such as: - anatomy and biomechanics; -functional research and assessment of aerobic and anaerobic capacity and instrumental approaches in assessing physical fitness in untrained and athletes; -biochemistry; nutrition, metabolism and biostimulation in sports.

(3) Preparation on social aspects of physical activity and sports.

(4) General methodological and practical training through elective disciplines in areas related to the study of movements and building motor habits in applied areas such as dance arts, vocal pedagogy, as well as various sports disciplines, applied aspects of eccentric exercises in sports and kinesitherapy.

Requirements for the competencies and professional skills of the specialists

The specialist with the educational-qualification degree "master" and professional qualification "sports kinesiologist" is preparing for realization in a wider field, than in the bachelor's program. This concerns both the institutions and the structures in which he can find professional realization, as well as the positions he can hold. The competencies of the specialists, based on the general, specialized and practical training, allow them to expand the areas of application and the subject of the activities, arising from their bachelor's competencies. They can perform research, consulting, expert, organizational and health education activities.

The knowledge of students enrolled in the master's program includes:

- theoretical and practical knowledge specialized in the field of kinesiology;

- knows the laws, concepts and principles;

- possesses highly specialized practical and theoretical knowledge;

- demonstrates knowledge in the field of kinesiology and various disciplines studied.

The "sports kinesiologist" must have the following skills:

- has a set of practical and cognitive skills, develops creative solutions, to show the ability to generate new knowledge, is able to perform research, expert, consulting, organizational and health education activities, being hired by research institutes, research institutions in which epidemiological and functional research is conducted, hospitals, clinical and health facilities, fitness centers, sports centers, entertainment centers, nursing homes, educational institutions, sports organizations;

- to participate in teams for medical-restorative and diagnostic activities and functional research in sports and kinesitherapy;

- to formulate adequate assessment in situations;

- to develop new skills as a result of new knowledge and practices;

- to demonstrate innovative methods and tools in the specialized field of work;

- to develop documentation related to research projects in areas related to sports kinesiology, physical therapy, physical activity, sports training;

- to support arguments in solving problems of interdisciplinary nature;

- to show initiative in a complex and unpredictable environment;

-to organize and conduct research related to functional studies of physical effort, assessment of aerobic and anaerobic capacity, assessment of strength characteristics at isometric and isokinetic loading (in concentric and eccentric mode) of muscle groups in all joints, spiroergometric measurements and analyzes, assessment of basal metabolism and metabolic costs during exercise, registration of kinesiological EMG, etc.

- to develop documentation related to research projects in the field of kinesitherapy and rehabilitation, functional research, kinesiological research, etc.

- to perform organizational, managerial and expert activities related to systematic physical activity, mass events, sports, sports competitions, etc.

- to inspire and educate in pupils, students, citizens, people with disease disorders, etc., the need and desire for regular exercise, etc.

The competencies of students in master's programs:

Graduates of the master's program "Sports Kinesiology" will be able to carry out: (1) research; (2) scientific and applied; (3) expert and (4) consulting activity. They can receive professional realization in areas related to physical activity and sports, in their capacity of: scientists, experts, consultants, specialists, managers, physical activity instructors, consultants in an environmentally friendly lifestyle and others. Such specialists can be hired from: physical therapy centers, sports clubs, health and resort centers, SPA centers, state and international associations for sports and fitness, hospitals, hospital sectors, rehabilitation and sanatorium complexes, nursing homes and people with permanent disabilities, institutes of the Bulgarian Academy of Sciences and other scientific institutes in which medical-biological, clinical, sports and applied scientific research is conducted. With this professional qualification, the kinesiologist can apply for doctoral programs in kinesiology and the like related to physical activity.

Graduates of the master's program "Sports Kinesiology" will be able to carry out the following activities: (1) research; (2) scientific and applied; (3) expert and (4) consulting.

Professional realization. These specialists can receive professional realization in areas related to physical activity and sports, in the capacity of: researchers, specialists, consultants and experts in functional research of physical activity and sports training, instructors in physical activity, consultants in environmentally friendly lifestyle. and others.

Such specialists can be hired by:

- State and international associations and structures related to sports and fitness, kinesitherapy, medical training and rehabilitation;

- The administration of university and college faculties in Sports and Physical Activity, sports complexes and sports centers;

- In intermediary and impresario companies for sports entrepreneurship;

- In enterprises and companies for production and trade of sports equipment and articles, devices and means for kinesitherapy;

- As experts and specialists in institutions and structures engaged in the coordination and management of national and international movements in the field of active lifestyle and sports for all;

- As administrators or managers of a fitness club, sports club, health and resort centers, SPA centers, etc.

- As consultants on environmentally friendly lifestyle and nutrition.

The professional qualification that the graduates of the master's program receive is a **sports kinesiologist**.

The qualification characteristic was adopted at a meeting of the Department Council of the Department of Sports and Kinesitherapy held on 27.01.2010, № 6, adopted at a meeting of the Faculty Council of the Faculty of Public Health, Health Care and Sports, held on 27.01. 2010, Minutes № 4 and approved at a meeting of the Academic Council of SWU "Neofit Rilski", held on 12.05.2010, № 23.

The qualification characteristic was updated and adopted at a meeting of the Department Council of the Department of Kinesitherapy held on 17.06.2016, № 14, updated and adopted at a meeting of the Faculty Council of the Faculty of Public Health, Health Care and Sports held on 21.06 .2016, № 30.

The updated qualification characteristic was approved at a meeting of the Academic Council of SWU "Neofit Rilski", held on June 29, 2016, № 8.

The qualification characteristic was discussed and adopted at a meeting of the Department Council of the Department of Kinesitherapy held on 22.10.2019, Minutes № 15, updated and adopted at a meeting of the Faculty Council of the Faculty of Public Health, Health Care and Sports held on 12.11 .2019, № 36.

The updated qualification characteristic was approved at a meeting of the Academic Council of SWU "Neofit Rilski", held on 18.12.2019, № 1.

The qualification characteristics were supplemented, amended and approved at a meeting of the Department Council of the Department of Kinesitherapy held on 07.04.2025, Protocol No. 17, updated and adopted at a meeting of the Faculty Council of the Faculty of Public Health, Healthcare and Sports held on 07.05.2025, Protocol No. 38.

The updated qualification characteristics were approved at a meeting of the Academic Council of the Southwestern University "Neofit Rilski", held on June 11, 2025, Protocol No. 21.

2. CURRICULUM STRUCTURE
Specialty: Sports Kinesiology

First year			
First semester	ECTS credits	***Second semester***	ECTS credits
Biological fundations of kinesiology	2,0	Repetitorium of biomechanics	4,0
Repetitorium of anathomy	4,0	Biochemistry and fisical exercise	3,0
Spiroergometry, isokinetic dynamometry and kinesiological electromyography	6,0	Biostimulation in sport	2,0
Excentric exercises in sport and kinesiotherapy	2,0	Optional discipline Group I	3,0
Methodology of kinesiological research and nonparametric statistics	4,0	Optional discipline Group II	3,0
Sport traumatism	3,0	**State examination or master's thesis defense**	15,0
Social aspects of phisical activity and sport	3,0		
Optional discipline Group I	3,0		
Optional discipline Group II	3,0		
	Total 30		Total 30
Optional disciplines:			
First group – Applied Kinesiology		**Second group – Kinesiological aspects in sport**	
Application of Mobilization Techniques and Massage in Orthopedic Practice	3,0	Kinesiologycal aspects in athletics	3,0
Kinesiology Tape in Sports	3,0	Kinesiologycal aspects in strenght sports	3,0
Kinesitherapy in Sports Practice	3,0	Kinesiologycal aspects in tennis	3,0

BIOLOGICAL FUNDATIONS OF KINESIOLOGY

ECTS credits: 2.0 **Hours per week: 2+1se+0le+0pe**

Evaluation: written exam **Kind of discipline: Compulsory**

Semester: I **Exam: Written/ test**

Supervision:

Department: Healthcare

Faculty: Faculty of Public Health, health care and Sport

Lecturers: Assist. Maria Ganeva

Annotations: The course in Biological Fundaments of Kinesiology covers the main theories in biology, the subject, tasks and methods, as well as the connections of biology with other sciences. Students gain basic knowledge of cytology, with an emphasis on cell membranes and membrane processes, as well as on basic bioorganic substances and their transformations

REPETITORIUM OF MOVEMENT'S ANATHOMY

ECTS credits: 4.0 **Hours per week: 2+0se+1le+0pe**

Evaluation: written exam **Kind of discipline: Compulsory**

Semester: I **Exam: Written/ test**

Supervision:

Department: Anathomy and Physiology

Faculty: Faculty of Public Health, health care and Sport

Lecturers: Assos. Prof. Manol Kalaniev, PhD

Assist. Maria Ganeva, PhD

Annotations: The compulsory course "Repitatorium in the Anatomy of Movements" is included in the curriculum of the master's program in Sports Kinesiology aims to provide fundamental training related to the structure and function of the musculoskeletal system at the micro, meso and macroscopic levels.

The program provides acquaintance with the structure of tissues, organs of the musculoskeletal system and their interaction, considered in their unity and development.

Attention is paid to their mutual spatial arrangement and their functional volitional nervous regulation. In the study material special attention is paid to the tissues and organs - bone, cartilage and muscle tissue, joint apparatus and the structure and function of different muscle groups. The different types of movements from everyday life and the participation of all anatomical-functional participants at the tissue, organ and system level are considered in more detail.

The realization of these life activities has a direct impact on an individual's experience and development and learning of all practical motor skills and abilities, which is automated at the cortical level and is expressed through higher nervous activity and is carried out by higher cortical functions - the integrative nature of nervous system.

The action of the corresponding peripheral nerves responsible for the movement of the human body is studied. They are considered structurally and functionally (with emphasis on morphology and anatomy) of all systems involved in the implementation of any volitional movement of man.

SPIROERGOMETRY, ISOKINETIC DYNAMOMETRY, KINESIOLOGICAL ELECTROMYOGRAPHY

ECTS credits: 6.0 **Hours per week: 2l+0se+4le+0pe**

Evaluation: written exam **Kind of discipline: Compulsory**

Semester: I **Exam: Test**

Supervision:

Department: Healthcare

Faculty: Faculty of Public Health, Healthcare and Sport

Lecturers: Prof. Reni Kalfin, PhD

Chief assist. Ilia Kanelov, PhD

Chief assist. Anton Manchev, PhD

Assist. Maria Ganeva, PhD

Анотация: Spiroergomtery, isokinetic dynamometry and kinesiological electromyography are modern methodological approaches used in functional studies of the cardio-respiratory system and musculoskeletal system, which assess the neuromuscular performance and function of these systems. They are the subject of a number of biological, medical, health and sports specialties and scientific fields such as physiology, pathophysiology,

electrophysiology, biomechanics, physiotherapy and rehabilitation, orthopedics and traumatology, sports medicine, neurology, kinesitherapy, kinesiology and others.

The objectives of the compulsory course "Spiroergomteria, isokinetic dynamometry, kinesiological electromyography", included in the curriculum of the master's program in Sports kinesiology, are the acquisition by students of theoretical and practical knowledge and skills on functional studies of these systems by assessing biomechanical, physiological and electrophysical parameters. .

The main modules of the course are reflected in the name of the course. In it, the lecture material has a smaller number of hours in favor of practical classes, in order to enable students through laboratory exercises to register experimental data with appropriate equipment systems to be the subject of analysis and discussion. That is why the goals of the training in the individual modules are achieved mainly through the practical classes.

EXCENTRIC EXERCISE IN SPORTS AND KINESITHERAPY

ECTS credits: 2.0 **Hours per week: 1l+0se+1le+0pe**

Evaluation: written exam **Kind of discipline: Compulsory**

Semester: I **Exam: Written exam/ test**

Supervision:

Department: Anatomy and Physiology

Faculty: Faculty of Public Health, Healthcare and Sport

Lecturers: Prof. Stamenka Mitova, PhD

Ass. Miglena Tsvetkova-Gaberska, PhD

Анотация: The course "Eccentric exercises in sports and kinesitherapy" is proposed in connection with the data accumulated over the past 10-15 years on the effects of lengthening muscle contractions on the condition and remodeling of the musculoskeletal system.

Although the effects of lengthening muscle contractions are known to those skilled in the art and are practiced in sports and kinesitherapy such as stretching, PNF stretching, stretching exercises, flexibility exercises, plyometrics, etc.,there are few lecture courses and literature sources in Bulgarian, which combine the physiological and pathobiomechanical characteristics of eccentric muscle contractions with the practical aspects of the types of stretching and recent data on kinesitherapy and rehabilitation in malnutrition, sarcopenia and osteopenia, which are typical in women. ergometric performance which is observed to the greatest extent in the untrained, as a result of age changes and in patients with cardio-respiratory diseases.

KINESIOLOGICAL RESEARCH AND NON-PARAMETERIC STATISTICS

ECTS credits: 4.0 **Hours per week: 2l+0se+2le+0pe**

Evaluation: exam **Kind of discipline: Compulsory**

Semester: I **Exam: written**

Supervision:

Department Informatics;

Faculty of Mathematics and Natural Sciences

Lecturers: Assos Prof. Radoslav Mavrevski, PhD

Annotations: The necessity of scientific research in each field, as well as the assessment of the quality of the ones made, makes the proposed curriculum intended to give students knowledge of the general theory of scientific research and application of statistics in sport kinesiology.

The main objectives of the program are: (1) to give students knowledge of the main areas of general theory of research in sports kinesiology ; (2) expand students' training on those departments that are more closely related to the requirements for their future activities, including the development of diploma work and related or other scientific messages; (3) to give opportunity students to evaluate the area in which they can develop their research; (4) to give students to observe and conduct experiments and research and interpret the obtained results; (5) introducing students with the fundamental foundations of mathematical statistics; (6) to give students to build their knowledge and practical skills in disciplines through software products in a computer class; (7) build students' active working habits throughout the semester through a system of current control and assessment of knowledge, skills and competences during the semester.

For the training on the proposed program, there is an absolutely necessary knowledge of physiology, as well as good knowledge of the material from the secondary school of chemistry, biology, physics and mathematics. Computer literacy and English linguistics skills are desirable, although they are a parallel element of program training.

SPORTS TRAUMATISM

ECTS credits: 3.0 **Hours per week: 2l+1se+0le+0pe**

Evaluation: written exam **Kind of discipline: Compulsory**

Semester: I **Exam: Written**

Supervision:

Department: Kinesitherapy

Faculty: Faculty of Public Health, Healthcare and Sport

Lecturers: Assos prof. Mariela Filipova, PhD

Анотация: Students get acquainted in detail with the most important element of sports pathology - trauma. Sports illnesses and injuries are the result of sports activities, whether organized or unorganized, collective or individual.

The sport kinesiologists must be well aware of the specifics of sports injuries and their treatment, due to the need to diagnose them in time, to provide effective pre-medical care, and if necessary seek timely medical intervention. And since the effectiveness of treatment depends to a large extent on this, this knowledge is absolutely necessary.

This is especially important for professional and children's sports, where it involves huge financial resources, successful sports careers and accomplished human destinies. Knowledge of anatomy, physiology, functional diagnostics of ODA, biomechanics, pathobiomechanics and pathokinesiology is absolutely necessary for the training under the proposed program.

SOCIAL ASPECTS OF FYSICAL ACTIVITY AND SPORTS

ECTS credits: 3.0 **Hours per week: 2l+0se+1le+0pe**

Evaluation: written exam **Kind of discipline: Compulsory**

Semester: I **Exam: Written/test**

Supervision:

Department: Medical-social sciences

Faculty: Faculty of Public Health, Healthcare and Sport

Lecturers: Assos prof. Ekaterina Mitova, PhD

Annotations: The course "Social aspects of physical activity and sports" is included in the curriculum of the master's program "Sport Kinesiology" for students majoring in "Pedagogy of Physical Education". The aim of the course is to provide the necessary prerequisites for the realization of the new social functions of physical education and sports, arising from modern living conditions.

REPETITORIUM OF MOVEMENT'S BIOMECANICS

ECTS credits: 4.0 **Hours per week: 2l+0se+2le+0pe**

Evaluation: written exam **Kind of discipline: Compulsory**

Semester: II **Exam: Written**

Supervision:

Department: Healthcare

Faculty: Faculty of Public Health, Healthcare and Sport

Lecturers: Assist. Miglena Tsvetkova-Gaberska, PhD

Annotations: The obligatory discipline "Biomechanics Tutorial" has an interdisciplinary character and consists of three modules. It aims to upgrade students' knowledge with fundamental knowledge about the mechanics of human body movements, in the context of various static and dynamic loads in untrained people and in systemic loads.

The training course examines the basic principles of mechanics (kinematics, dynamics and statics) and their manifestation to the specific features of the human musculoskeletal system, as well as to the movements and characteristic postures of the human body. Applied aspects of knowledge relate to terminology, analysis of movements, mechanisms of muscle work, principles in the study of posture and balance, research methods, etc., which are important for kinesitherapy and rehabilitation, as well as in systematic exercise in sports.

Knowledge of biomechanics is built in three modules: (1) kinetic and dynamic characteristics; balance and conditions for sustainability; (2) the biomechanics of the musculoskeletal system; and (3) a review of the basic approaches in biomechanical research that are used to evaluate various parameters of exercise movements, incl. in sports.

In the exercises, students conduct practical and laboratory classes. They relate to solving computational and graphical problems in coordinate systems, determining kinematic and kinetic characteristics, mastering terminology on kinematics and kinetics of human movements, practical exercises on dynamometric measurements with an isokinetic dynamometer in isometric and isokinetic mode, posture analysis and balance, presentation of measurement principles according to the SFTR system, discussion of cases in the field of sports and kinesitherapy

BIOCHEMISTRY OF PHYSICAL EXERCISES

ECTS credits: 3.0 **Hours per week: 2l+0se+1le+0pe**

Evaluation: written exam **Kind of discipline: Compulsory**

Semester: II **Exam: Written**

Supervision:

Department: Healthcare

Faculty: Faculty of Public Health, Healthcare and Sport

Lecturers: Assos. Prof. Tatyana Dzimbova, PhD

Annotations: Annotation: The main objectives and tasks of the discipline can be formulated as follows:
- to present the main mechanisms, substrates and metabolic pathways that provide the energy supply and the energy consumption of skeletal and muscular work; - to differentiate between anaerobic and aerobic supply systems and the role of genetically determined types of muscle fibers; - to examine the energy needs of individuals at different levels of loading and training as well as the practical aspects of weight, nutrition, assessment methods, etc .; - to apply practical methods and computational approaches for assessing energy expenditure, lactate and glucose in the blood at sub- and above the anaerobic thresholds,
Course content: The lecture course covers: - energy - basic concepts; - an overview of metabolism. Metabolic chains; - catabolism and anabolism; - major catabolic energy supply routes; - cellular structure and cellular energy; - the central role of ATP in cellular energy. Degradation and resynthesis; - the muscle as an automatic self-regulating machine; - muscle fiber from an energetic point of view (cellular organelles consuming ATP); - types of muscle fibers and their energy specificity. Type I fibers, Type IIa and IIb fibers - structural, energetic and sports characteristics; - basic exchange and energy expenditure at different intensity of physical exercises; - proteins: structural and biological characteristics of hemoglobin, myoglobin, erythropoietin, enzymes (general structure and mechanism of action), immunoglobulins; - proteins: metabolism and biological (nutritional) value; - structural and energy needs of proteins in terms of age and physical exercises; - energy needs of carbohydrates in terms of physical exercises; - structural and energy needs of lipids in terms of age and physical load; - overweight, obesity, diet and physical exercises; - vitamin and mineral needs of the body depending on age and physical activity; - sports exercises, health and antioxidants; - biochemical characterization of muscle fatigue and recovery. Practical exercises cover: - determination of energy expenditure at rest and exercises with computational approaches; - determination of energy consumption at rest and exercises with experimental gas analysis data; - normal weight, obesity, diet: practical methods for assessing and calculating indicators; - determination of Lactate concentrations at exercises below the anaerobic threshold; - determination of Lactate concentrations at exercises above the anaerobic threshold; - the determination of creatine phosphokinase activity and the role of this indicator in the assessment of physical exercise cases; - solving case studies and tasks on Biochemistry of Physical exercises.

BIOSTIMULATION IN SPORT

ECTS credits: 2.0 **Hours per week: 1l+0se+1le+0pe**

Evaluation: written exam **Kind of discipline: Compulsory**

Semester: II **Exam: Written**

Supervision:

Department: Healthcare

Faculty: Faculty of Public Health, Healthcare and Sport

Lecturers: Assos prof. Tatyana Dzimbova, PhD

Annotation: Biostimulation in sport is a discipline that discusses issues related to ways to maintain good health, maintain and support athletes' workouts, maintain and enhance athletes' working capacity, and ways of faster and more complete recovery. The main objectives and tasks of the discipline can be broadly formulated as follows: - to distinguish between non-authorized biostimulation drugs and techniques; - to examine in detail each group of permitted pharmacological agents for biostimulation and recovery; - to get familiar with different thermal, physical and massaging techniques for biostimulation and recovery

Course content: The lecture course includes: - an introduction to biostimulation; - biochemical processes related to the physical exercises; - nutrition - a basis for good health and to help the athlete; - prohibited compounds and methods; - substances that improve the functioning of the cardiovascular system, substances that normalize the function of the nervous system, substances that improve the functioning of the cardiovascular system, immunosuppressants, detoxifying substances; - pedagogical means for biostimulation and recovery; - psychological means for biostimulation and recovery; - massage as a biostimulating technique; - thermal and physical means of biostimulation. Practical exercises cover: - description and evaluation of energy costs. Determination of energy costs at rest and at physical exercises; - food - a major source of energy and nutrients; - body weight and composition - body weight and body composition calculations; - biochemical processes related to the physical exercises and ways of their impact; - study of specific pharmacological means for biostimulation and preparation of a short presentation on a chosen subject; - presentation of the results of studies on specific pharmacological topics and their discussion.

Teaching and assessment:. The course is conducted through multimedia presentations, while the practical laboratory exercises take place in the University Centre for functional research in sports and kinesitherapy. On line lectures on Biostimulation in sport, as well as theoretical and practical tasks on labs are available for the students in Black Board. Extracurricular activity concerns: - preparation for exercises and tests on any topic; -, Developing theoretical and practical themes; - Use of sites on the Internet. The so-called current grade (CG) is formed by activities such as visits of classes, test scores, essays and overall assessment of the

exercises. The exam is written. For Exam are admitted students with CG at least 3. CG and exam grade (EG) form the final grade (FG)), based on the following formula: FG = 0.4 CG +0.6 x EG.

APPLICATION OF MOBILIZATION TECHNIQUES AND MASSAGE IN ORTHOPEDIC PRACTICE

ECTS credits: 3.0 **Hours per week: 2l+0se+1le+0pe**

Evaluation: written exam **Kind of discipline: Optional**

Semester: I/II **Exam: Written**

Supervision:

Department: Kinesitherapy

Faculty: Faculty of Public Health, Healthcare and Sport

Lecturers: Assos. Prof. Stamenka Mitova

Annotations: The course introduces students to the principles, tools and methods of mobilization techniques and massage as part of the rehabilitation process for orthopedic diseases and injuries. The training combines theoretical knowledge and practical skills to restore joint mobility, reduce pain and improve the functional state of the musculoskeletal system. The aim of the training is to prepare students for the professional application of mobilization techniques and various types of massage in orthopedic practice, with an emphasis on the individual approach and their integration into complex kinesitherapy.

KINESIOLOGY TAPE IN SPORTS

ECTS credits: 3.0 **Hours per week: 2l+0se+1le+0pe**

Evaluation: written exam **Kind of discipline: Optional**

Semester: I/II **Exam: Written**

Supervision:

Department: Kinesitherapy

Faculty: Faculty of Public Health, Healthcare and Sport

Lecturers: Assos. Prof. Mariya Gramatikova

Annotations: The course introduces students to the theory and practice of the application of kinesiology tape as a modern tool for prevention, treatment and recovery in sports injuries and traumas. The training includes basic principles of taping, techniques for placement and adaptation to various sports and clinical cases. The goal of the training is to prepare students for the effective and safe use of kinesiology tape to support muscle function, reduce pain, improve stability and accelerate recovery processes in athletes.

KINESITHERAPY IN SPORT PRACTICE

ECTS credits: 3.0 **Hours per week: 2l+0se+1le+0pe**

Evaluation: written exam **Kind of discipline: Optional**

Semester: I/II **Exam: Written**

Supervision:

Department: Kinesitherapy

Faculty: Faculty of Public Health, Healthcare and Sport

Lecturers: Assos. prof. Stamenka Mitova, PhD

Annotations: The course presents the principles, tools and methods of kinesitherapy applied in the context of sports activity. The prevention of sports injuries, recovery after physical exertion and the rehabilitation of common sports injuries are examined. The emphasis is on the integration of kinesitherapy methods in the training and competition process. The aim of the training is to prepare students for the effective application of kinesitherapy approaches in sports in order to maintain optimal physical fitness, reduce the risk of injuries and accelerate the recovery of competitors and active sportsmen.

KINESIOLOGYCAL ASPECTS OF ATHLETICS

ECTS credits: 3.0 **Hours per week: 2l+0se+1le+0pe**

Evaluation: written exam **Kind of discipline: Optional**

Semester: I/II **Exam: Written**

Supervision:

Department: Sport

Faculty: Faculty of Public Health, Healthcare and Sport

Lecturers: Chief assist. Anton Manchev, PhD

Annnotations: The proposed course in the elective course "Kinesiological aspects in athletics" aims to form a wide range of knowledge about the biomechanics and kinesiology of basic athletic exercises and, of course, applied human movements. The universal nature of these exercises allows future kinesiologists to supplement their arsenal of exercises with different nature and focus. This is a prerequisite for the formation of the necessary motor potential, enriching the professional image of the future sports kinesiologist.

Knowledge: are related to: - knowledge of the technique of the most accessible and most widely used athletic exercises; - mastering the specific athletic means and methods for developing the physical qualities; - control over the load during the application of athletic exercises.

Skills: students must be able to make a biomechanical analysis of movements from all athletics disciplines and to master the methodology of teaching athletics.

The content of the lecture course, its structure, tasks and literature aim to create maximum opportunities for activating the independent and future practical and research work of students.

KINESIOLOGYCAL ASPECTS IN STRENGHT SPORTS

ECTS credits: 3.0 **Hours per week: 2l+0se+1le+0pe**

Evaluation: written exam **Kind of discipline: Optional**

Semester: I/II **Exam: Written**

Supervision:

Department: Theory and methodology of physical education and sport

Faculty: Faculty of Pedagogics

Lecturers: Chief assist. Ilia Kanelov, PhD

Annotations: The elective course "Kinesiological aspects of strength sports" has an interdisciplinary nature and consists of three modules. It aims to upgrade students' knowledge with some fundamental knowledge about the kineliology and applied biomechanics of the human body, in the context of the manifestation of muscular strength in various strength and speed sports.

The educational content of the course is aimed at increasing knowledge and competencies in the field of biomechanisms that give strength to the movement of body segments, the whole body and mobile objects, in the context of strength sports. Kinesiology uses the laws of qualitative biomechanical analysis. The training course will enable students to make a qualitative and quantitative analysis of sports movements in power sports, namely: 1) with equipment (rowing, weightlifting, power tribe, baseball, shot put, etc.); 2) on appliances (rings, horse with bracelets, etc.); 3) martial arts (wrestling, Canadian wrestling,

judo, sambo, sumo, etc.); 4) non-Olympic sports disciplines, in which the sports content is provided by the manifestation of strength qualities.

Kinesiology uses the principles of applied biomechanics for qualitative analysis of mechanics (kinematics, dynamics and statics) and their manifestation to the specific features of the human musculoskeletal system, as well as to the movements and characteristic postures of the human body. The applied aspects of the knowledge acquired during the study of the discipline refer to the terminology, the analysis of the movements, the mechanisms of the muscular work, principles in the study of the spatial, temporal and spatial-temporal characteristics of the movements.

In the exercises, students have the opportunity to conduct practical and laboratory classes, which include observations of sports disciplines and sports exercises.

KINESIOLOGYCAL ASPECTS IN TENNIS

ECTS credits: 3.0 **Hours per week: 2l+0se+1le+0pe**

Evaluation: written exam **Kind of discipline: Optional**

Semester: I/II **Exam: Written**

Supervision:

Department: Sport

Faculty: Faculty of Public Health, Healthcare and Sport

Lecturers: Assos prof. Dimitar Tomov, PhD

Annotations: The elective course "Kinesiological aspects in tennis" is included in the curriculum of the master's program in Sports Kinesiology, in order to enrich the knowledge of students with a bachelor's degree in the use of more and more diverse sports in their professional realization.

The educational material contained in it aims to acquaint students with sports-technical and tactical skills in tennis with the means and methods for their study, courts, equipment and tools for practicing tennis, as well as for organizing and conducting tennis competitions. . The study of the atomic and biomechanical analysis of the strokes in tennis from a kinesiological aspect will enable the students for successful application in practice.