Master's Degree Program: SPORTS KINESIOLOGY

Proffessional qualification: Sports Kinesiologist
Duration: 1 year
Mode of study: full-time

ADMISSION REQUIREMENTS AND BACKGROUND:

Admission to the master's program of Sports Kinesiology requires a Bachelor's degree with the following professional qualifications: Physical education teacher, Sports coach (in any kind of sport), Sports manager, Sports animator, Coach of applied physical training and sports for the Bulgarian Army and the Ministry of Interior; from Broad area of study: (1) Pedagogics, Subject field: Pedagogics of physical education (Code: 1.3.); and (2) Health Care and Sports, Subject field: Sport (Code: 7.6.).

This master's program enhances the professional qualification and is a good start for a successful carrier, as it improves the competitiveness of graduates at the local and global labor market.

Master's programs related to Kinesiology (i.e. Human Kinetics) are attractive for specialists of various professional qualifications. Worldwide practice shows that Bachelor's and Master's programs in Kinesiology differ largely following different criteria. For example, there are: Science and Kinesiology, Arts Kinesiology, scientific investigations in the field of sport performance (Sport and Science) etc. As this is a new, pioneer program in Kinesiology in Bulgaria, accredited for a first time in South-West University, it covers a broad spectrum of scientific and applied aspects.

AIMS:

- (1) to upgrade and internationalize the education of the graduates from bachelor's programs related to exercise and movement, with knowledge on locomotion of the healthy humans by fundamental disciplines, such as: Anatomy of movement and Basics of kinesiology, Neurophysiology of movement, Bioenergetics of skeletal muscles;
- (2) to ensure the education of the graduates on the functional research, related with contemporary methodology, such as: Spiroergometry, Kinesiological Electromyography, Isokinetic Dynamometry, Exercise Biochemistry etc.;
- (3) to enrich the knowledge of the graduates on practical and applied disciplines, related with exercise and training, sedentary lifestyle effects, overtraining etc., which reveals the relation between physical activity and health;
- (4) to provide knowledge of these specialists on many activities related to motor control of skeletal muscles in various applied disciplines, such as: dance art, instrumental music, plastic art, vocal music etc.

(5) to give the methodology and provide possibilities for training skills on the experimental approaches during kinesiological research at a different levels such as: a literature review preparation, selection of the experimental groups, nonparametric statistic analyses, experimental design and data interpretation etc.

KNOWLEDGE:

Graduates from this master's program will be proficient in:

- (1) Basic disciplines: applied physics (physics of rigid body and fluids, heat exchange, kinematics, dynamics, statics etc.), scientific research and statistics, non parametric statistical analyses of experimental data on physical work and physical effort, physical loading, motor skills and motor performance, sports, sport training, biophysics (introduction in physical and biological basis of the exciting structures) etc.;
- (2) A range of medico-biological disciplines, related to movement and training: anatomy of the skeletal-muscular system and anatomy of movement, neuro-muscular basis of motor activity, functional research in sports and kinesitherapy (including spiroergometry for assessment of aerobic capacity; evaluation of anaerobic capacity, electromyography, isokinetic dynamometry for assessment of force and power during eccentric, concentric and isometric contractions, bioenergetics of the motor activity and evaluation of the parameters for aerobic and anaerobic work; physiological basis of motor control, metabolism, biostimulation, supplementation and exercise performance;
- (3) Disciplines, related with motor activity and motor control of the skeletal muscles in the applied areas of vocal preparation for singing, dance art, instrumental art, and plastic arts, such as: classic exercise, folklore dances, typical dances, piano, accordion, graphics and drawing, painting, sculpture, applied arts, vocal singing.
- (4) General scientific and special skills in psycho-social, legal, economic issues of physical activity and sport, acquired by training in psychology of physical activity and sport, social aspects of physical activity, etc.

PROFESSIONAL COMPETENCIES AND SKILLS

A Sports Kinesiologist is a broad spectrum specialist. The competencies of the specialists, based on their general and specialized training and education enables them to enlarge the areas of application, and to alter their routines and business activity, which could be not only related to kinesitherapy, but also to physiotherapy and rehabilitation. If needed, they could adapt to scientific, investigatory, consulting, expert, organizational, educational and management activities.

A Sports Kinesiologist has a competency:

- to organize various sport and multisport events (competitions, hiking trips and outings, etc.); to supervise, consult, advise and coach participants.

- to carry out curative, restorative and recreation activities, functional testing and rehabilitation in hospitals, polyclinics, clinical centers, sanatoriums, hotels, fitness centers, retirement houses and other health and social institutions and facilities.
- to motivate and educate patients, pupils, students, citizens, people with disabilities etc., for exercise, for natural and healthy lifestyle, sensible habits related to physical culture, optimal level of working capacity, for overcoming the sedentary lifestyle; and for initiating and maintaining good fitness level.
- to prepare and develop documentation for scientific projects in the area of kinesiology and physical therapy.

Curriculum

<u>First semester</u>	ECTS Second semester credits		ECTS credits
Biological foundations of kinesiology Anatomy of movement with kinesiology, part 1 Spiroergometry, isokinetic dynamometry and kinesiological electromyography Methodology of kinesiological research and nonparametric statistics Social aspects of physical activity and sport	4.0 5.0 8.0 5.0 4.0	Anatomy of movement with kinesiology, part 2 Exercise biochemistry Biostimulation in sports Physical activity, health, morbidity and ergotherapy	4.0 3.0 2.0 2.0
Optional disciplines (the students choose one discipline for each group)	Optional disciplines (the students choose one discipline for each group, they cannot choose same disciplines as in first semester)		
I. Arts kinesiology		I. Arts kinesiology	
 Classical exercise Folklore dances Distinctive dances Piano Accordeon Graphics and drawing Painting Sculpture Applied arts Introduction to vocal training 	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0	 Classical exercise Folklore dances Typical dances Piano Accordeon Graphics and drawing Painting Sculpture Applied arts Introduction to vocal training 	2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0 2.0

II.	Science		II. Science	
1. 2. 3. 4. 5. 6.	Cybernetic kinesiology Psychology of physical activity Contemporary trends in theory and methods in sports training Training of athletes with disabilities Sports trauma Eccentric exercises in sports and kinesitherapy	2.0 2.0 2.0 2.0 2.0 2.0	 Cybernetic kinesiology Psychology of physical activity Trends in theory and methods in sports training Training of athletes with disabilities Sports trauma Eccentric exercises in sports and kinesitherapy 	2.0 2.0 2.0 2.0 2.0 2.0
			State examination or master thesis defence	15
		Total 30		Total 30

Total for both semesters: 60 credits

Course description

BIOLOGICAL FOUNDATIONS OF KINESIOLOGY

ECTS credits:	4.0	Classes per week:	2L+1S +0E+LE			
Assessment:	written exam	Course type:	compulsory			
Semester:	I					
Course coordinating Sports	Course coordinating department: Sports and Kinesitherapy, Faculty of Public Health and Sports					
Lecturer: Assist. Prof. Maria Kokova		Department:	Department:			
Email: mariakokova@swu.bg		Sports and Kinesitherapy				

Annotation:

In this discipline the students learn the basic paradigms and theories in biology, the subject, objectives and methods, and relationships of biology with other sciences. The science of living organisms introduces the students to the laws of nature at different levels of organization of matter: cell, tissue, organ, system, organism, population, species, community,

ecosystem and biosphere. The objectives of the course are to introduce students to the cell theory, structure and functioning of cells, types of cells, formation of tissues, organs and systems in multicellular organisms, and to the basic types of regulation in living nature, homeostasis, and biological basis of the behavior of humans and animals.

Contents:

Subject, tasks and importance of biology. Basic principles of organization of living systems. Cellular biochemistry. Cellular energetics. Reproduction and individual development of organisms. Introduction to genetics. Evolutionary doctrine. Development of the biosphere. Nutrition and digestion in plants, invertebrates and vertebrates. Coordination and regulation in animals. Coordination and regulation in plants. Growth and development. Types of growth. Homeostasis. Systems of governance and regulation in biology. Animal locomotion.

Teaching and evaluation:

The discipline gives 4 credits as follows: 2 are awarded for attending lectures and seminars, and 2 for carrying out control tests and extracurricular work. The current grade is formed as a sum of the averaged grades from the control tests (40%) and the overall assessment of the activities and development of extracurricular work (60%). The exam is written. It consist of 2 questions from the syllabus. The students have to answer both questions. The exam grade is an average from both answers, when each is graded Average 3 at least. If one of the answers is graded Poor 2, than the average grade is also 2, regardless of the other grade. The final grade is calculated as follows: 40% of current grade and 60% of the exam grade.

ANATOMY OF MOVEMENT WITH KINESIOLOGY - PART I

ECTS credits:	5.0	Classes per week:	2L+0S +0E+1LE	
Assessment:	written and oral exam	Course type:	compulsory	
Semester:	I			
Course coordinating department: Sports and Kinesitherapy, Faculty of Public Health and Sports				
Lecturers (team):		Department:	Department:	
Assoc. Prof. Maria Gikova, Ph D		National Sport Acad	National Sport Academy, Sofia	
Tel.: 0898 77 65 97				
E-mail: mgikova@abv.bg				

Assist. Prof. Maria Kokova, PhD	Sports and Kinesitherapy

Course outline:

Students obtained knowledge on fundamental anatomical-functional disciplines. Motor system is the main object with a special attention on the so-called kinesiological characteristics. The material is in accordance with the requirements of the clinical and special disciplines. In the first part of the discipline, the students obtained knowledge on the functional anatomy and kinesiology in the context of the interactions between systems, proper terms, anatomical vocabulary and terminology, ideas for topographic anatomy etc. Knowledge on axes and planes is further included together with locomotor system, passive and active parts of this apparatus, types connections between bones and structural organization of the skeletal muscles.

Course topics:

Osteology, bone tissue, types of bones in the skeletal system. Functions of the bones, kinematic links. Origin, genesis and development of the bones. Aging processes. Bones of the spinal column. Bones of the thoracic cage. Skull. Bones of upper and lower limb. Bones as leverage systems. Kinematic links of the locomotor system. Anatomical conditions for injuries and traumatism. Muscle apparatus, peculiarities of the muscle action - accompanying movements, active and passive muscle insufficiency, paradoxical action of the muscles. Muscle synergy: agonists, antagonists, fixators, inverse agonists or neutral antagonists. Muscles of head, neck, torso – insertions, functions and innervation. Anatomical and functional analysis of the spinal column movements.

Teaching and assessment:

The lecture course is presented by multimedia, anatomical models and posters. Practical exercises should be done with contemporary equipment in the laboratory on physiology and anatomy or in the University center for research in sport and kinesitherapy with isokinetic dynamometer, kinesiological EMG etc. The current intermediate assessment is accumulated basing on one or two tests and participation in the practical exercises.

SPIROERGOMETRY, ISOKINETIC DYNAMOMETRY, KINESIOLOGICAL ELECTROMYOGRAPHY

ECTS credits:	8.0	Classes per week:	2 L+0S +0E+4LE
Assessment:	written and oral exam	Course type:	compulsory
Semester:	I		
Course coordination	ng department: Sports and	Kinesitherapy, Faculty	of Public Health and

Sports

Lecturers (team):

Assoc. Prof. Nevena Stoyanova Pencheva; Tel.: 0899 147 701,

Assist. Prof. Kristina Jivkova Grancharska; Tel.: 0878 755 006,

Assist. Prof. Maria Kokova, PhD; Tel.: 0896 73 34 71,

Department:

Sports and Kinesitherapy

Sports and Kinesitherapy

Sports and Kinesitherapy

Course outline: The aim of the discipline is to acquire theoretical and practical knowledge and skills by the students on the fundamental research of cardio-respiratory system and support and movement system through assessment of the biomechanical, physiological and electrophysiological parameters. The healthy untrained persons and trained athletes from different sport disciplines are the main subjects for functional testing. The main 3 modules of the course share the same name with the discipline. The volume of the lectures is limited in favour of the practice in order to give an opportunity of the students to obtain experimental data by exercise on novel methodology and to discuss the results obtained. So, the main purposes of the teaching on this 3 modules are achieved predominantly by practical activities.

Course content:

Part Selected topics from the physiology of respiratory system – this part is just for student from bachelor degree of Physical education.

Part Spiroergometry comprises: - functional changes in respiratory and cardiovascular system during exercise; - approaches for evaluation of the VO2max and their application in the practice; - the methodology of direct spiroergometric assessment of the VO2max and evaluation of the parameters, which are measured or calculated; - methods for indirect determination of the VO2max, their limitations and advantages.

Part Neurophysiology of skeletal muscles – this part enlarge the knowledge of the students from degree bachelor on Physical education on physiology of muscles, motor units, motor control etc.,

Part Isokinetic Dynamometry comprises: - the role of the skeletal muscle for human movement and for generation of different types of force in the context of the sub-cellular structural organization of muscles and different types of muscle contractions; - characterization of the dynamometry as a methodology for measurement of torque and related parameters as well, such as: muscle and joint work, power, etc.; - methodology of isokinetic dynamometry for evaluation of the muscle performance and muscle function; - description and characterization of the measured and calculated parameters, obtained with isokinetic dynamometry in sports and kinesitherapy.

Part Kinesiological EMG comprises: - the role of EMG in investigations of neuro-muscular performance; - relationship between physiological signal and register EMG signal; -

understanding of the correlation between EMG signal and influences of internal and external factors; - description of the characteristics of the recorded technique, frequency and amplitude elements of the signal etc.; - validity and reliability of the EMG measurements] - interpretations of the myograms during static, dynamic and isokinetic exercise.

Course organizattion and assessment:

The lectures are presented by multimedia, supplemented by smaller discussion sections. The practical laboratory exercises should be done with specialized equipment in specialized laboratory or University center for research in sport and kinesitherapy. At the end of the semester the students obtain an intermediate assessment, after 2 or 3 test performances and assessment of the practical exercise attitudes. In order to appear in the exam, their current grade have to be higher than 2. After passing exam (written and oral), the students receive final grade.

References:

Eston R., Reilly Th. (2004) Kinanthropometry and exercise. Physiology laboratory manual: tests, procedures and data. (Eds. Roger Eston and Thomas Reilly). Routledge (Taylor & Frances Group), London and New York.

Lieber R. L. (2009) Skeletal muscle structure, function and plasticity: the physiological basis of rehabilitations. Lippincott, Williams, Wilkins.

Wilmore J.H., Costill D.L., Larry Kenney W. (2008) Physiology of Sport and Exercise, fourth edition, Human Kinetics.

Wasserman K., Hansen J.E., Sue D. Y., Stringer W. J. (2005) Principles of Exercise Testing and Interpretation (Fourth Edition) Lippincott Williams Wilkins.

METHODOLOGY OF KINESIOLOGICAL RESEARCH AND NONPARAMETRIC STATISTICS

ECTS: 5.00 Classes per week: 2L+0cy+0лу +2LE

Assessment: exam Course type: compulsory

Course coordinating department: Sports and Kinesitherapy, Faculty of Public Health and Sports

Lectors:

Assoc. Prof. Elena Karashtranova, Ph D

Department on Informatics, Faculty of mathematics and natural sciences

e-mail: helen@swu.bg;

Assist. Prof. Kristina Jivkova Grancharska; Tel.: 0878 755 006,

Assist. Prof. Maria Kokova, PhD; Tel.: 0896 73 34 71,

Course Description:

The course "METHODOLOGY OF KINESIOLOGICAL RESEARCH AND NONPARAMETRIC STATISTICS" is developed as a fundamental course in applied statistics and specifics of the scientific investigations in kinesiology. Special attention is paid to non-parametrical statistical methods and their application in the analysis of kinesiological investigation data.

The structure and the contents of the course are in accordance with the students' knowledge in IT acquired in the respective academic year.

Contents of the syllabus:

Methods of the scientific investigation. Characteristic features of the modern science; project work; specifics of empirical investigations in kinesiology; sample distribution and descriptive statistics; non-parametric criteria of investigation of types of distributions; investigation of co-relations; methods and technologies of statistical analysis of data.

Technology of teaching and assessment:

The lectures consist of basic theories concerning the different topics and their application in the scientific investigations as well as their realization in software for statistical analysis of data.

The seminars combine theory and practice. A specific experiment is argued, its model and the respective statistical procedures.

The extramural activities include a course project, work in libraries and with software.

In the course of the term the students participate in the argumentation of the procedures and solve problems in the respective system. The term examination consists of development and defense of a project and a test.

SOCIAL ASPECTS OF PHYSICAL ACTIVITY AND SPORT

ECTS credits: 4.0 Classes per week: 2L+1S +0E+1LE

Assessment: exam **Course type:** compulsory

Semester: I

Course coordinating department: Meduco-social Sciences, Faculty of Public Health and Sports

Lecturer:

Prof. Pariz Parizov

e-mail: p parozov@swu.bg

Outline:

The course Social aspects of physical activity and sport is included in the curriculum of the Master's program Sport Kinesiology. The aim of the discipline is to provide the necessary preconditions for the implementation of the new social features of the physical education.

Contents:

Introduction, Sport and physical activity, description, etc. Influence of religion, race and ethnicity on sport, Sport and recreation. Effect of tourism on the organism.

Teaching and assessment:

Traditional methods, multimedia, reflexive techniques, Internet. The final exam is written, on basic terms, mechanisms, schemes.

ANATOMY OF MOVEMENT WITH KINESIOLOGY - PART II

ECTS credits: 4.0 Classes per week: 2L+0S +0E+1LE

Assessment: written and oral exam **Course type:** compulsory

Semester: I

Course coordinating department: Sports and Kinesitherapy, Faculty of Public Health and

Sports

Lecturers (team): Department:

Assoc. Prof. Maria Gikova, Ph D National Sport Academy, Sofia

Tel.: 0898 77 65 97

E-mail: mgikova@abv.bg

Assist. Prof. Maria Kokova, Ph D

Sports and Kinesitherapy

Tel.: 0896 73 34 71,

Course outline:

In the second part of the discipline, the students received knowledge on the muscles of upper limb and lower limb, kinesiological analyses of movement, cardiorespiratory system as a limited factor of exercise, adaptive morphological changes in physical activity and aspects of motor control as well.

Content:

Upper limb muscles – insertions, functions, innervation. Kinesiological analyses of movement in the joints of upper limb and shoulder. Muscles of lower limb – insertions, functions and innervation. Arch. Kineziological analysis of movements in the joints and lower limbs, walking and squatting - standing.

Cardiorespiratory system as an exercise-limiting factor. Adaptive morphological changes in physical activity. Anatomic and functional aspects of the management of movement. Movement as a process of managing, the nervous system as the governing body, the body as a manageable unit. Outer and inner circle of government, rights and feedback. Kineziological analysis of simple movements and complex motor actions - algorithm. Analysis of complex motor activities - walking, running, squatting, standing, lifting the arm to the vertical position - anteflexion and abduction. Modern methods for analysis and modeling of the musculoskeletal system. Internal and external force field.

Teaching and assessment:

The course is conducted using multimedia, models, anatomical and poster boards. The workshops are held at the Center for Functional studies in sport and kinesitherapy with isokinetic dynamometers, kinesiological EMG, etc. Current grades are calculated based on one or two tests and participation in practical exercises.

EXERCISE BIOCHEMISTRY

ECTS credits:	3.0	Classes per week:	2L+0S +0E+1LE	
Assessment:	written	Course type:	compulsory	
Semester:	I			
Course coordinating department: Sports and Kine		nesitherapy, Faculty of	of Public Health and	
Sports				
Lecturer:		Department:		
Assist. Prof. Maria Kokova, PhD		Sports and Kinesith	Sports and Kinesitherapy	
E-mail: mariakokova(<u>@swu.bg</u>			

Outline:

The aim of the proposed program is to give students in-depth knowledge and skills on metabolic changes in the human body at rest and exercise.

The program starts with discussion on the physical and chemical basics of biochemistry, followed by an overview of metabolism, with emphasis on the major catabolic energy-

supplying pathways. Afterwards, all cellular structures associated with energy metabolism and muscle work are addressed. Special attention is given to the most important structural proteins, metabolism of proteins and biological value of proteins. Carbohydrate metabolism in exercise is considered with special attention on the regulation of glycaemia. Particular attention is paid to lipid metabolism and the health hazards from the use of saturated fats, margarine and cholesterol-rich products. The role of vitamins and minerals as regulators of metabolic processes and participants in antioxidant protection in a number of physiological processes is a separate special subject. Finally, we focus on muscle fatigue and recovery.

Contents:

Lecture:

Part 1 Basics of biochemistry: Physical and chemical basics of biochemistry, Metabolism, Biomolecules – proteins, carbohydrates, lipids, nucleic acids.

Part 2 Exercise biochemistry: Muscle contraction – mechanism and energetic, Exercise metabolism – carbohydrate, lipid and protein metabolism in exercise, Biochemical assessment and calculations.

Organization and assessment:

Lectures will be held using multimedia. The practical laboratory exercises will be carried out in the University Center for Research in Sports and Kinesitherapy. All graduates from the program will be given the opportunity to participate in actual experimental work.

Current semester grade will be formed by the average grades of two tests. To take the final exam graduates will need to have current grade at least 3.0.

BIOSTIMULATION IN SPORTS

ECTS credits: 2,0 Classes per week: 1L+1S +0E+0LE

Assessment: exam Course type: compulsory

Semester: I

Course coordinating department: Sports and Kinesitherapy, Faculty of Public Health and

Sports

Lecturer:

Prof Ivan Topuzov, Ph D

Tell.: 0899 147 701,

E-mail: ivan topouzov@swu.bg

Assist. Prof. Kristina Jivkova Grancharska

Tel.: 0878 755 006

Summary:

The subject Biostimulation in sports acquaintances students with the functioning of the digestive system, digestion and substances exchange during physical activities and sports. The food substances, energetic and qualitative composition are reviewed. A special attention is paid to the so called Functional foods (antioxidants and probiotics) and the available food supplies on the Bulgarian pharmaceutical market. The principles for the preparation of food rations, the rules of divided and hippoenergetic diet and the diet of sportsmen of various sports, disciplines and categories are learned. The methods and ways for biostimulation and recruitment of sportsmen are studied, incl.the risks from applying doping.

Contents:

Functioning of the digestive system, digestion and substances exchange during physical activities and sports. Energetic balance. Sport cellulite. – The food substances as a source of energy and information. Energetic and qualitative compositions of foods. Food substances. Tables for the composition and contents of food products. – Functional foods. Vitamins, mineral substances and water. Oxidants and antioxidants. Probiotics. food supplies on the Bulgarian pharmaceutical market. – Sport diet. Principles for the preparation of food rations. Divided and hippoenergetic diets. Diet of sportsmen of various sports, disciplines and categories; norms. – Biostimulation of the human organism – methods and ways. - Methods and ways for recruitment of sportsmen. Doping.

Technology of learning and examination:

The students are guided in the modern theoretical treatment of nutrition and biostimulation through lectures and seminars. One or two tests are carried out for current mark. The final examination is done with a written exam.

PHYSICAL ACTIVITY, HEALTH, MORBIDITY AND ERGOTHERAPY

ECTS credits: 2.0 Classes per week: 1L+1S +0E+0LE

Assessment: Oral and written axam **Course type:** compulsory

Semester: I

Course coordinating department: Sports and Kinesitherapy, Faculty of Public Health and

Sports

Lecturer:

Prof. Ivan Topuzov

Tel.: 0899 147 701,

E-mail: ivan topouzov@swu.bg

Lab exercises:

Assist. Prof. Kristina Jivkova Grancharska; Tel.: 0878 755 006,

Department: Sports and Kinesitherapy

Annotation:

Course "Physical Activity Health, Morbidity and ergotherapy" introduces students to the wording and meaning of health systems to assess their health and grades of health. Boundary conditions are considered in health. Special attention is paid to the influence of different types of physical activity on health and the risk of occurrence of diseases inconsistent with individual abilities loads, including stress, surge micro- and macro-traumatism. Sport for health is seen as a means to strengthen the body and prevent stress and disease. The role and tasks of ergotherapy are studied in the rehabilitation of illnesses and injuries come as a result of physical activity and sports.

Contents:

Health and illness – definitions and characteristics. Definition of health service. Structure and tendencies in the dynamics of the sick rate in Bulgaria , Europe and rest of the world. The physical activity and its relatedness with health and illnesses. Oxidative stress and sports. Illnesses from sports overtensioning, micro and macro traumatism. The natural means and sports as a method for strengthening the human organism and prophylaxis of stress and illnesses. Their impact upon the immunity and hardening. Role and tasks of ergotherapy in the rehabilitation of illnesses and injuries come as a result of physical activity and sports. The LODI–model – application in the kinesiological practice. Adapted physical activity and sports in rehabilitation of people with chronic illnesses and injuries. The role of art (Art-therapy) in rehabilitation of children and adults. The role of animation and supervision for the kinesiology, kinesitherapy and rehabilitation.

Technology of learning and examination:

The lectures are supported by posters, as well as the seminar exercises. The current marks are formed on the basis of a test and participation in the seminars.

CLASSICAL EXERCISE

ECTS credits:	2.0	Classes per week:	1L+0S +1E+1LE
Assessment:	exam	Course type:	elective
Semester:	I /II		
Course coordinating	department		
Department of Choreo	ography		
Prof. D.Sc. Anelia Ya	neva	Department:	
		Faculty of Arts	

Summary:

Students become familiar with and learn the basic movements of the classical dance.

During the tutorial students record and analyse the basic requirements in the performance of the studied movements - possible mistakes and to absorb the compulsory conditions for the correct movements.

During the exercise, divided in groups, the students learn the basic elements from the classic dance - movements on bar, in the middle of the stage, jumps.

Content of studies:

Analysis and types of learning of steps and jumps, preparing for the learning of the classic dance. Analysis and types of learning of rhythmic movements. Analysis and types of learning of movements in partnering. Analysis and types of learning of stage graphycs. Analys and types of learning of basic movements of the classic dance. Steps and jumps preparing the learning of elements from the classic dance - Temps leve saute; Changement de pied; Pas echappe; Rhythmic movements - clapping in different timing schemes, with accent on the different point of the timing. Partning movements - Pas chasse, pas ebmoite, изучаване на полка, валс learning of polka and walce. Stage graphycs movements - combinations, diagonal rolling, circle, two rows. Simple movements of classical dance - - Battements, Ronds, Tours, Pirrouettes, Pas sauté, Allegro.

Methodology of the studies and evaluation:

From methodical point of view the studied material is separated in sessions. The course targets to familiarise the students with movement's knowledge of the classic dance realm;

the primciples and the specifics of performing the classic dance movements; to become familiar with the requirements of the classic dance movements; to become fluent and capable to independently apply combinations, build on the classic dance movements.

The studies complete with an end of the term exam, where the final mark is formed with the marks of two prime mid-term exam and evaluation of the independent students' work.

FOLKLORE DANCES

ECTS credits: 2 Classes per week: 1L+0S +1E+0LE

Assessment: exam - written and **Course type:** elective

practical

Semester: I / II

Course coordinating department: Sports and Kinesitherapy, Faculty of Public Health and

Sports

Lecturer: Department:

Prof. Nikolai Cvetkov, Ph D Choreography

Tel.: 0899 14 77 01 Faculty of arts

E-mail: tsvetkov n@swu.bg

Summary:

Course "Bulgarian Folklore Dances" contains Draft general overview of Bulgarian folklore dances. The course provides historical data for Bulgarian folklore dances. Students learn folklore dance ethnographic specimens from all areas to get acquainted with the style and character of the performance. The course includes topics of Bulgarian ethnochoreology. The students master the different samples of Bulgarian folklore dance.

Course content:

Overview of Bulgarian folklore dance. Ihistorucal information about Bulgarian folklore dances. Dance as public entertainment. Ritual dance culture. Ritual dances of the calendar cycle. Ritual dances of the family cycle. Female ritual dances. Girlish and feminine ritual dances. Male ritual dances. Mastering the dance patterns from Northern folklore region. Mastering the Dance Shoppe samples of folklore region. Mastering the dance patterns of the Thracian folklore region. Mastering the dance patterns from Pirin Folklore field. Mastering the dance patterns folklore from Dobrudja area.

Teaching and assessment:

The course consists of lectures, exercises and individual work of students. The course takes place in the traditional manner, supported by choreography examples. Complementary lectures are held in the dance hall with an accompanist. The course ends with an exam -

written and practical at the end of the semester. The final evaluation report the results of the tests and exams (written and practical) in the ratio 6:4.

PIANO

ECTS credits: 2.0 Classes per week: 1L+0S+1E+0LE

Assessment: exam - written Course type: elective

Semester: I/II

Course coordinating department: Sports and Kinesitherapy, Faculty of Public Health and

Sports

Lecturer: Department:

Assoc. Prof. Maria Goranova, Ph D Music

Tel.: 0899 14 77 01 Faculty of arts

E-mail: E-mail: maria g@swu.bg

Summary:

Course "Piano" is optional and purpose of the proposed curriculum is to give students basic knowledge regarding relationships, hearing music - Fingertip-motor skills and habits. The short course addressing the issue of musical hearing and its active manifestation in the process of playing piano. The aim is to focus attention on building basic Fingertip-driven and manual piano skills, using different rhythmic and song samples. Provides an opportunity for students to improvise individually and in pairs different rhythmic and sound design as an expression of polar and close emotional states.

Training is necessary for students to have a elementary ear for music.

Course content:

Music as an art form. Elements of musical expression. Getting familiar with the note writing. Introduction to the piano keyboard. Children's song - an expression of attitudes and emotions. Problems arising when playing by ear and playing notes. Ensemble playing. Playing by ear and imitations of different rhythmic and melodies. Gaining skills in assessing foreign and own exact implementation. Perform various rhythmic phrases with a musical note recording. Playing by ear a familiar melody and simple children's songs. Reading and playing musical text. Ensemble playing.

Technology of the education and assessment:

The course is delivered in a manner approved by using multiple tables and diagrams illustrating the music "live". The practical exercises are held in room with two pianos.

At the end of the semester, students receive ongoing assessment, based on assessments of one test and assessment of thematic development / paper.

DRAWING AND GRAPHIC

ECTS credits:	3.5	Classes per week:	2L+0S +0E+1LE		
Assessment:	written and oral exam	Course type:	elective		
Semester:	I /II				
Course coordinati	Course coordinating department: Faculty of Arts				
Lecturers (team): Department:					
Prof. Georgi Drachev		Fine arts			

Annotation:

The painting and Graphic course provides complex knowledge –predominantly practical from the field of painting and graphic. This study discipline is basic in teaching students dealing with fine arts. Thus students obtain technical skills connected to different types of paintings and graphical techniques.

The lectures course is connected to basic problems, expressive means and concepts from the field of painting and graphic both in historical and contemporary aspects. Basic theoretical knowledge is taken into consideration which is used in practical activities.

The practical course of painting is connected to the following study disciplines: Painting, Plastic Anatomy, Modeling, History of Fine Arts etc. Painting and Graphic are defined as additional study disciplines for the study process of the Kinesiology subject.

Content of the study program:

Targets of the subjects Students t obtain complex preparation in the field of painting and graphic. This target is connected to basic concepts and problems from practice and theory. It is performed via coordination between lectures and practical exercise defined in the program.

This is made possible via the following tasks implemented in the Painting and Graphic study:

• Students to get familiar with characteristics of graphic painting in theory and practice. Everything which is necessary for theoretical and practical preparation of a student following this study discipline;

• To obtain basic theoretical knowledge connected to graphic painting oh nature mort, landscape and human figure. Mastering of techniques in graphic painting and expressive capacity of basic materials.

Organization of assessment:

During practical exercise acquired skills are being checked connected to lecture course tasks and mostly to practical exercise tasks which are dominating, connected to auditorium and outside activities. Final goal is professional assimilation of painting skills in accordance with their future occupation.

The total credit of the study discipline is 2 which are provided for one semester. The total credit is sum of the credits for auditorium activity and the credits for outdoor activity. The total grade is a result of the current control and the exam grade.

PAINTING

ECTS credits:	2.0	Classes per week:	1L+0S +1E+1LE	
Assessment:	exam	Course type:	elective	
Semester:	I /II			
Course coordinating	department: Faculty o	f Arts	•	
Lecturer:		Department:		
Prof. Emil Kukov, D. Ed.		Pedagogics of Fine	Pedagogics of Fine Arts Education	
E-mail: emil_kukov@)swu.bg			

Short description of the course:

The purpose of the presented Painting course is to provide a system of knowledge on the theory of painting and pictorial skills necessary for successful development of paintings, and to develop visual-motor coordination in working with special materials and techniques. This course provides knowledge about the technology of painting, composing knowledge, of drawing, lighting and shading, and color volume and spatial development of the specific nature of painting expression, knowledge of proportions and plasticity of the human body, knowledge of building space by laws linear and aerial perspective.

Course content:

1. Color harmonies and interplay of colors (induction). Contrast. Manipulative actions scenic materials. Building a custom engine for compositional construction of still life. Technological features of watercolor technique (wet dry). Color mixing. Volume of drawing and building lighting and shading still life. Spatial organization. Technological features of watercolor technique (wet on wet). Proportions and construction of plastic head with artistic means. Technological features of the tempera technique. Local values and materiality in painting the human figure from life. Technological characteristics of the oil technique. Still life of everyday objects and flowers with colorful drapery in contrast range. Paper, watercolor and painting materials. Still Life by sharp-edged objects, plaster ornaments and draping in monochrome range. Paper, Watercolor (wet dry). Still Life with household items and gypsum head draped in warm range. Paper, water color (wet-on-wet). Schematic sketch of a human head (background color draping). Schematic sketch of a female figure wearing (sitting) on a colored background.

Technology of education and assessment:

Methods of education and training are lectures, discussions, talks, visualizations (reproductions of artworks, sketches of student funds etc.). Also are included interpretation, evaluation and monitoring, as well demonstrations and corrections (with practical exercises). The technique used is capable of displaying video (over 200 video art), DVD, multimedia (multimedia laptop with a video projector), are presented more than 4,000 art slides.

The final score is a function of the arithmetic mean score of current control derived from semester written examination. It reports the results of monitoring and evaluation of the test in the ratio 4:6 contingent parts.

SCULPTURE

ECTS credits:	2	Classes per week:	1L+0S +1E+0LE	
Assessment:	exam	Course type:	elective	
Semester:	Ι/ΙΙ			
Course coordinating department: Sports and Kinesitherapy, Faculty of Public Health and Sports				
Lecturer:		Department:		
Prof. Dimitar Sotirov, Ph D		Faculty of arts		

Summary

The course on "Sculpture" is aimed at detecting the spatial problems of plastic language arts. The course aims at "Sculpture" is to give as soon as richly culture. Training is done in two ways: plastic relief and management of the human body. The students master the plastic

construction of human body composition development in sculpture, familiarization with the positioning of the sculpture in space, getting a good plastic culture.

Course content

What is modeling? Supplies, tools and materials. Modeling per kind. Embossed building composition. Composition - types of relief. Genres in sculpture. Materials. Nude - kind and study. What is sculpture? Historical development. Modeling a classic relief plaster cast. Modeling of human head from a plaster cast. Modeling the figure.

Teaching and assessment

Sculpture Training includes lectures and practical exercises. The basic form is "a kind sculpture" and free reproduction of nature into sculptural forms. We use a large number of reproductions of artworks to illustrate the learning process. The final score is the result of the monitoring and evaluation of the examination. The practical orientation of the course determined to adopt a 4:6 relation between the proportion of exam assessment and monitoring.

INTRODUCTION TO VOCAL TRAINING

ECTS credits:	2.0	Classes per week:	1L+0S +1E+0LE
Assessment:	exam	Course type:	elective
Semester:	I / II		
Course coordinating department: Faculty of Arts			
Lecturer:		Department:	
Associate professor Galina Popova		Drama Department	
E-mail: galateya@sw	u.bg	School of Arts	

Annotation:

The purpose of the vocal training is the development of vocal technique (a combination of specific habits and skills) of future performers – singers. The development of vocal technique is a process of targeted willful mastering, control, and automation of specific motion of the singing. The syllabus is designed to offer a wider view of the kinesiology and to provide understanding about a professional performing art whose specific movement side is subject to

study by the Kinesiology of Art, not taught in Bulgaria, as well as a practical mastering of the vocal technique.

Content of the syllabus:

Sound – tone and noise – physical characteristics. Structure and physiology of the vocal apparatus. The function of the larynx in the production of voice. The role of the nervous system in the production of voice. Phonotoric reflex arc. Vocal body scheme. Breathing as an engine of voice. Specifics of breathing for singing. Practical exercises for mastering breathing. Resonance system of human voice. The role the glottis. Qualities of the voice – necessity for vocal technique. Accuracy of pitch. Mastering vocal technique. Coordination between the senses of the muscles and the hearing. Placement and support. Specifics of the activation of the torso muscles, lower limps and the facial muscles in mastering vocal techniques. The placement of the larynx in singing. Classification of singing voices – indicators. Ranges, registers and transition of female and male voices. Mastering vocal transition points. The role of closing. Work with sound in different types of voices, shaping tones in different ranges. "Attach" of the tone. Types of weaknesses in singing and speaking and ways to overcome. High position of sound. Diction and articulation in singing – specifics. Vowels and consonants in the language and their role in singing. Some healing aspects of sound and singing. Historical overview of the development of the artistic singing and vocal technique. Variety of vocal terms.

Teaching methodology and evaluation:

The course is led on the base the traditional methods, using a lot of drawings, schemes, and diagrams on a projector or handouts to the students, Practical exercises are held in a hall with piano and a big mirror. Ongoing supervision is realized via written assignments and on the base of the practical work. The final grade shows the results from the supervision and the grade from the exam in 4:6 ratio.

CYBERNETIC KINESIOLOGY

ECTS credits: 2.0 Classes per week: 1L+1S +0E+0LE

Assessment: written and oral exam Course type: elective

Semester: I / II

Course coordinating department: Sports and Kinesitherapy, Faculty of Public Health and

Sports

Lecturers (team):

Prof. Rusi Russey, Ph D Department:

Theory and methodology of Physical Education

Summary:

Course "Cybernetic Kinesiology" adds to the physiological and biomechanical aspects of the study of human movement a new theoretic position. It aims to teach the students the principles and laws of operation of complex dynamic systems management. This knowledge is of a fundamental nature to explore the mechanisms of motor coordination, structure and processes of development in ontogeny. On the other hand, this theoretical knowledge creates a contemporary theoretical and methodological modern scientific worldview for the study of complex processes in the body in the treatment and rehabilitation of various diseases, especially violations of neuromuscular coordination.

Course content:

Module One - Introduction to Theoretical Cybernetics: What science is the cybernetics. Cybernetic system. Functional aspect of management. The system of governance - structure. Information and Control. Basic principles and laws of cybernetics, cybernetics methodology.

Module Two - motor control in sport: A retrospective analysis of scientific understanding of the human movements. Methodology of systematic, structural modeling of motor coordination. Structural-functional model of self-governing system of human. Coordination abilities and their manifestations in sports movements. Cyber laws of development of human motor coordination.

Teaching and assessment:

The course is held in the traditional way endorsed using visual aids for the presentation of the material in the form of graphs, sketches, tables, etc. We use audiovisual tools. Students through course work consists of self-training by studying literature, consultations with the teacher, develop papers on specific topics. Exam is written. It covers two theoretical questions. The final score is the arithmetic mean of the current assessment and the exam

CONTEMPORARY TRENDS IN THEORY AND METHODS IN SPORTS TRAINING

ECTS credits: 2.0 Classes per week: 1L+1S +0E+0LE

Assessment: exam Course type: elective

Semester: I/II

Course coordinating department: Sports and Kinesitherapy, Faculty of Public Health and

Sports

Lecturers (team):

Prof. Dr. Vassil Zhechev

Assist. Prof. Valeri Tsvetkov

Outline:

In this course, new approaches and contemporary ideas on physical activity in sports are considered. The students learn the laws governing the training process and their specific applications considering age and training levels. Special attention is paid to the different types of planning, management, selection and prediction in sports training. To successfully participate in this course, the students need background knowledge on anatomy and agerelated morphology, physiology and sports physiology, sports psychology, sports pedagogics, biomechanics, chemistry and biology, sports sociology, etc.

Contents:

Part 1

Basic methodological problems of sports training. Essence and social functions of sport in modern society. Theory of sports – as a scientific knowledge system – contents and structure. Essence of sports training .Selection and prediction of sports skills.

Part 2

Planning and control in sports. Fatigue and recovery. Sports fitness levels. Means, methods and principles of training. Specialized sections in sports training. Practical exercises. Methods in training strength, endurance, speed and agility. Control of intensity – dosage and effect.

Teaching and assessment

Assessment of students' performance is in accordance with Regulation 21/2004 of Ministry of Education and Science. The discipline gives 2 credits: 1 for auditorium and 1 for extracurricular work. The exam is written. It consists of two theoretical questions – 1 for each part of the questionnaire handed out to the students beforehand.

TRAINING OF ATHLETES WITH DISABILITIES

ECTS credits: 2.0 Classes per week: 1L+1SE+0LE+0PE

Assessment: exam **Course Type**: Elective

Semester: I / II

Course coordinating department:

Department of "Sports and physical therapy"

Faculty of Public Health and Sports

Lecturer:

Professor Kiril Aladjov, Doctor of Pedagogical Sciences

E-mail: kirilaladjov@swu.bg

Annotation:

Discipline "Training of Athletes with Disabilities" aims to give students theoretical and practical knowledge of exercising sports activities for people with disabilities who are preparing to take part in competitions. Basis for mastering the discipline are theoretical and practical sessions on various disciplines related to the methodology of sports training. Athletes with disabilities compete in different groups (categories) depending on the type and degree of injury and disability. Racing Rules, equipment and tools for participation, track and sectors, and playgrounds are adapted to physical abilities of athletes with disabilities. Sports training and used in it equipment and training methods have also been adapted and tailored to the exercise of certain sports and participate in competitions for people with disabilities.

Course content:

Disabilities. Definition, causes, frequency. Certification and registration types, categories, characteristics of different groups of people with disabilities. Bulgarian and international organizations for athletes with disabilities. Sports activities for people with disabilities and its place in contemporary society, nature. Historical data on sport for people with disabilities. Recent achievements. Social significance Specific features of the organization of sports for athletes with disabilities. Sanitary hygienic and technical requirements for sports equipment sports for people with disabilities

Sports and medical issues in sport for people with disabilities. Aim and tasks of sports medical care. Physiological, anatomical and biomechanical characteristics of the various sports and disciplines. Features in the methodology of training and organization of competitions. Features of sports training for different types of sports available for practice by athletes with disabilities.

Teaching methods and assessment:

During the course provides group and individual consultations lecturer associated with providing the necessary methodological guidance to absorb the teaching learning material. The current control is based on topics currently teaching material through individual tests. At the end of the course an examination in the form of a written test on the material. Summary final grade is complete the following indicators: participation and attendance of students in various activities, the results of the current control tests and the result of the final examination test.

ECCENTRIC EXERCISE IN SPORTS AND KINESITHERAPY

ECTS credits: 2.0 Classes per week: 1L+0S +0E+1LE

Assessment: written and oral exam Course type: elective

Semester: I / II

Course coordinating department: Sports and Kinesitherapy, Faculty of Public Health and

Sports

Lecturers (team):

Assoc. Prof. Nevena Stoyanova Pencheva; Tel.: 0899 147 701,

npencheva@swu.bg

Assist. Prof. Kristina Jivkova Grancharska; Tel.: 0878 755 006,

Assist. Prof. Maria Kokova, PhD; Tel.: 0896 73 34 71,

Summary

The subject is related to the effects of lengthening muscle contractions on the state and the remodeling of the musculoskeletal system and its application in sport and kinesitherapy as stretching, PNF stretching, stretching exercises, exercises for motor quality flexibility, plyometric training, etc. This discipline combines physiological and biomechanical characteristics of eccentric muscle contractions with the practical sides of different types of stretching and more recent data on the role of pliometrics and stretching and sports training and physical therapy and rehabilitation in hypothrophy, sarcopenia and osteopenia.

Course content

Discipline present to the students: - neurophysiological bases of eccentric contractions, providing a new data on the elastic properties of muscle and connective tissue, the role of proteins nebulin and titin, the stem and satellite cells in muscle fiber, specificity of muscle contraction in the extension; - role of the proprioreceptors for the control of length and tension in muscles by reflex mechanisms that are regulated spinal and supraspinal level; - specific effects and mechanisms of eccentric (or lengthening) contractions; - terms for "DOMS" (delayed onset of muscle soreness, or muscle fever) and its positive impact on remodelling in muscles and joints; - the role of eccentric exercises for flexibility; - characteristics and specificity of pliometrics and their role for increase burst strength in different muscle groups; - the main types of stretching - ballistic, dynamic, active, passive, static, isometric, PNF stretching.

Teaching and assessment

The lectures are presented in Power Point. The workshops are conducted in specialized laboratories at the Center for Functional research in sport and kinesitherapy. At the end of the

semester, students receive: - continuous assessment based on one test, and - final assessment - based on exam - written and oral.

References

- 1. Facilitated Stretching: PNF Stretching Made Easy. Robert E. McAtee Softcover, Human Kinetics Publishers 1993.
- 2. Stretching scientifically: a Guide to Flexibility Training, Tom Kurz, 3rd edition, Softcover, Stadion (Publisher) 1994.
- 3. LaStayo P. C., Woolf J. M., Lewek M. D., Snyder-Mackler L., Reich T., Lindstedt S. (2003) Eccentric muscle contractions: Their contribution to injury, prevention, rehabilitation, and sport. J Ortho Sport Phys Ther 33, 557-571.
- 4. Lee T. D. (2011) Motor control in everday actions. Human Kinetics