

Sports diagnostics

First degree

GRUPA C (Przedmioty z programów studiów kierunków prowadzonych w języku polskim, które będą realizowane w języku obcym)

Module: Module A: genetics in sport Course: genetic diagnostics in sport (SPECIALIZATIONS /SPECIALIZATION MODULES)					Subject code: US113AIJ2451_36S	
Faculty: US sports diagnostics						
Form of study: Bachelor's degree, full-time			Profile of education: . the general ademic		Specialty:	
Course status: facultative				Lecture language: semester: 4 - polish		
Year:	Semester:	Form of classes	Hours	form of crediting a course	ECTS	
2	4	laboratory classes	15	ZO	3	
SUM			15		3	
Subject coordinator	dr n med. Anna Nowakowska					
Aim of the course	Acquainting with issues in the field of molecular and genetic diagnostics in sport. Acquiring the skills to work in a molecular biology laboratory. Acquiring readiness to cooperate in a group as a leader and a member of the team. Acquiring readiness to continually expand knowledge of molecular biology in physical culture sciences.					
Prerequisites requirements:	Completing the course "Selected Issues in Human Biology". Completion of the subject "Human genetics with elements of clinical genetics".					
LEARNING OUTCOMES						
Category	Nr	Code	Description of directional learning outcomes	Symbol and number of learning outcomes according to the teaching program		
Knowledge	1	EP1	The student knows what lies at the basis of human genetic variability, knows the impact of molecular differences on the exercise and post-exercise variable adaptation of the human body.	K_W02		
	2	EP2	The student knows the conditions for maintaining a dynamic balance of the environment of the processes taking place in the body at the molecular level, taking into account the specificity of physical activities.	K_W04		
	3	EP3	The student has basic knowledge about planning and using techniques and methods in the field of genetic sports diagnostics.	K_W13		
Skills	1	EP4	The student has the ability to perform basic measurements in the field of sports genetics and their evaluation and use of techniques and methods of molecular sports diagnostics.	K_U02		
	2	EP5	The student is able to use the basic methods of numerical data analysis for the initial verification of the results generated during the experiment in the field of sport diagnostics.	K_U06		
	3	EP6	The student is able to supplement the data sheet of an athlete or amateur with the data generated in the genetic experiment and interpret the results obtained.	K_U10		
	4	EP7	The student knows how to apply the correct research methodology in the field of sports genetics for the purposes of conducting a research experiment.	K_U11		
	5	EP8	Student is able to plan and perform independently laboratory analyzes in the field of molecular genetics and knows how to prepare appropriate documentation of an experiment.	K_U12		
Social competence	1	EP9	The student is aware of the need to critically assess the level of his knowledge and professional competence.	K_K01		
	2	EP10	The student acquires competences allowing compliance with and respect of legal provisions relating to issues related to diagnostics and sport.	K_K02		

4	EP11	The student is ready to treat with respect and understanding towards people with whom cooperates in the implementation of research projects and tasks	K_K03
5	EP12	The student is able to effectively communicate information on sports diagnostics.	K_K06
6	EP13	The student is able to effectively transfer information in the field of sports diagnostics. The student is oriented on self-improvement aimed at continuous improvement of knowledge.	K_K07

Course content	Semester	Hours
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Subject: genetic diagnostics in sport

Laboratory classes

1. Isolation of RNA from whole blood.	4	4
2. Quantitative Real-Time PCR reaction.	4	3
3. Determination of human sex using PCR - analysis of the amelogenin gene.	4	2
4. Analysis of mini and microsatellite sequences - analysis of polymorphism in the LPR region of the HTT gene.	4	3
5. Performing sequencing of a selected region fragment.	4	3

Teaching methods Laboratory exercises conducted by group work method, Solving problems related to work in laboratory (selection of method of analysis, development of research methodology, difficulties in interpreting results), Experimental exercises combined with discussion

Verification methods for achieving intended learning outcomes		Number of learning outcome
	TEST	EP1,EP2,EP3,EP4,EP5,EP6,EP7,EP8
	PRACTICAL CLASSES (VERIFICATION THROUGH OBSERVATION)	EP10,EP11,EP12,EP13,EP4,EP5,EP7,EP8,EP9

The form and conditions for receiving credit
Credit based on the activity during the classes and the results of the written test.
Rules for calculating the final grade
The final grade is not calculated.

Method of calculating the final grade	Sem.	Subject	Form of credit	Method of calculating the grade	weight to average
	4	genetic diagnostics in sport		not calculated	
	4	genetic diagnostics in sport [laboratory]	credit with the grade		

Recommended literature

Up to date literature about genetic methods and its use in genetic diagnostics in sport.

Optional literature

STUDENT WORKLOAD

	Number of hours
Classes	15
Participation in the exam / pass	2
Preparation for classes	20
Studying literature	20
Participation in consultations	10
Preparation of the project / essay	0
Preparing for the exam / passing	8
TOTAL student workload	75

Number of ECTS points	3
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Module:	
Module: A: Nutrition in sport	
Course:	Subject code:
Basics of human nutrition (SPECIALIZATIONS /SPECIALIZATION MODULES)	16.1WK113AIJ2983_48S

Faculty:		
US Sports diagnostics		

Form of study:	Profile of education: .	Specialty:
Bachelor's degree, full-time	the general academic	

Course status:	Lecture language:
optional	semester: 6 - polish

Year:	Semester:	Form of classes	Hours	form of crediting a course	ECTS
3	6	seminar	15	ZO	3
		lecture	15	ZO	
SUM			30		3

Subject coordinator	dr n. med. ANNA NOWAKOWSKA
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Aim of the course	To acquaint students with the basic processes that occur in the human body during physical exercise. Introducing students to the subject of nutrition rules for athletes practicing various sports. To familiarize students with the main nutrients and their role in physical exercise. To familiarize students with the effects of supplements, nutrients and other measures to increase fitness and improve body function. To familiarize students with current regulations on dietary supplements. To familiarize students with possible interactions between food ingredients and dietary supplements.
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Prerequisites requirements:	General biology, chemistry, basic knowledge about food and proper nutrition and diseases related to incorrect nutrition.
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LEARNING OUTCOMES

Category	Nr	Code	Description of directional learning outcomes	Symbol and number of learning outcomes according to the teaching program
Knowledge	1	EP1	student demonstrates knowledge of human anatomy and physiology with particular regard to the digestive system and digestion and absorption processes	K_W01
	2	EP2	knows the nutritional and physiological functions of proteins, fats, carbohydrates and electrolytes, trace elements and vitamins	K_W03
	3	EP3	understands the essence of physiological processes occurring in the human body under the influence of targeted physical activity	K_W04
	4	EP4	has knowledge of nutrition and supplementation in sport	K_W06
	5	EP5	knows methods of nutrition assessment and its correction in physically active people	K_W07
Skills	1	EP6	the student can demonstrate the relationship between diet and exercise. can analyze and interpret biochemical changes occurring in the body of physically active people	K_U02
	2	EP7	can form opinions on the nutritional behaviors of physically active people	K_U03
	3	EP8	speaks about issues related to nutrition in sport in comprehensible language, using the correct nomenclature	K_U03
	4	EP9	plans and implements appropriate nutritional management taking into account the specific goal and possibilities	K_U11
	5	EP10	can indicate mistakes and neglect of nutrition	K_U13

	6	EP11	demonstrates the ability to independently search for the necessary data in the literature	K_U15	
Social competence	1	EP12	is aware of its role in shaping proper eating habits and applying proper and safe supplementation in physically active people	K_K05	
	2	EP13	is aware of the role of proper nutrition of a man subjected to physical effort	K_K05	
	3	EP14	is aware of the need to apply knowledge of healthier knowledge in coaching practice	K_K07	
	4	EP15	student understands the need for further education in the principles of proper nutrition	K_K10	
Course content			Semester	Hours	
Subject: Basics of human nutrition					
Lectures:					
1. Basics of rational nutrition of athletes. Nutrition rules for young athletes			6	5	
2. Energy demand in sport, energy balance. Content and basic functions nutrients in the athlete's diet. Water management and the acid-base balance of the body			6	5	
3. The specificity of nutrition in various disciplines. Time, frequency and type of meals during training and professions. Nutrition standards for athletes. Weight regulation in sport. Dangers of significantly lowering the energy value of food.			6	5	
Seminars:					
1. Protein needs in sport. Carbohydrates as an energy component in nutrition athletes (carbohydrate resources in muscle cells and the possibility of increasing them through training and nutrition). Fats in sports nutrition			6	6	
2. Setting up diets for people practicing various sports (endurance, strength, speed and strength-speed sports).			6	6	
3. Analysis of athletes' diet			6	3	
Teaching methods	multimedia lecture, theoretical and practical activities (reproductive and creative), group work, individual work				
Verification methods for achieving intended learning outcomes	TEST			Number of learning outcome	
	PRACTICAL CLASSES (VERIFICATION THROUGH OBSERVATION)			EP1,EP10,EP11,EP12,EP13,EP14,EP2,EP3,EP4,EP5,EP6,EP7,EP9	
The for mand conditions for receiving credit	The condition for passing each course in the module is a pass mark for the seminars and lectures.				
	Rules for calculating the final grade				
	The final grade is the arithmetic average of the grade obtained from seminars and lectures.				
Method of calculating the final grade	Sem.	Subject	Form of credit	Method of calculating the grade	weight to average
	6	Basics of human nutrition		arythmetic	
	6	Basics of human nutrition (lecture)	credit with grade		
	6	Basics of human nutrition (seminars)	credit with grade		
Recommended literature					
Up to date literature about human nutrition of athletes.					
Optional literature					
STUDENT WORKLOAD					
			Number of hours		
Classes			30		

Participation in the exam / pass	20
Preparation for classes	2
Studying literature	8
Participation in consultations	5
Preparation of the project / essay	0
Preparing for the exam / passing	10
TOTAL student workload	75
Number of ECTS points	3

Course: First aid (DIRECTIONAL)					Subject code: 16.1WK113AIJ2979_40S	
Faculty: US sports diagnostics						
Form of study: Bachelor's degree, full-time			Profile of education: . the general academic		Specialty:	
Course status: obligatory				Lecture language: semester: 6 - polish		
Year:	Semester:	Form of classes	Hours	form of crediting a course	ECTS	
3	6	exercises	10	ZO	1	
SUM			10		1	
Subject coordinator	dr ELŻBIETA SIEŃKO-AWIERIANÓW					
Aim of the course	To acquaint students with the theoretical and practical basics of first aid. To acquire teamwork skills. Acquiring skills to provide first aid to victims.					
Prerequisites requirements:	None					
LEARNING OUTCOMES						
Category	Nr	Code	Description of directional learning outcomes		Symbol and number of learning outcomes according to the teaching program	
Knowledge	1	EP1	the student knows the symptoms of basic disorders.		K_W04	
	2	EP2	the student knows the theoretical basics of first aid		K_W09	
Skills	1	EP3	The student is able to identify the problems of a person in a situation threatening his/her health and life.		K_U04	
	2	EP4	the student is able to undertake actions aimed at saving human health and life		K_U04	
Social competence	1	EP5	The student is aware of his own limitations and knows when to turn to the experts.		K_K01	
	2	EP6	The student provides assistance in a way that ensures his/her own and his/her environment's safety.		K_K08	
	3	EP7	the student is convinced of the need to carry to help victims in accordance with applicable law.		K_K02	
Course content				Semester	Hours	
Subject: First aid						
Exercises:						
1. The importance of first aid for human health and life, golden hour. Legal aspects of providing pre-departmental first aid.			6	1		
2. Characteristics of basic activities that save the health and life of a child and an adult. Cardiopulmonary resuscitation.			6	3		
3. The rules of providing first aid in special situations: myocardial infarction, fainting and fainting, burns, hypothermia, heat stroke, stroke, electrocution, poisoning, communication accidents.			6	4		
4. Accidents in schools and educational institutions.			6	2		
Teaching methods	multimedia presentation, conversions, demonstration with explanation, situational method, simulation method					
Verification methods for achieving intended learning outcomes						Number of learning outcome
	TEST					EP1,EP2,EP3,EP4
	PROJECT					EP1,EP2,EP3,EP4,EP5,EP6,EP7

The form and conditions for receiving credit	Passing the subject for assessment. Determining the credit score on the basis of attendance at the exercises, assessment from the test, as well as credit for individual practical exercises.				
	Rules for calculating the final grade				
	Passing the subject for assessment. Determining the credit score on the basis of attendance at the exercises, assessment from the colloquium, as well as credit for individual practical exercises.				
Method of calculating the final grade	Sem.	Subject	Form of credit	Method of calculating the grade	weight to average
	6	First aid		weighted	
	6	First aid [exercises]	credit with grade		1,00

Recommended literature

Up to date literature about first aid.

Optional literature

STUDENT WORKLOAD	
	Number of hours
Classes	10
Participation in the exam / pass	2
Preparation for classes	2
Studying literature	3
Participation in consultations	2
Preparation of the project / essay	4
Preparing for the exam / passing	2
TOTAL student workload	25
Number of ECTS points	1

Module: Module A: SPORTS MEDICINE					
Course: The basics of physiotherapy in sport (SPECIALIZATIONS /SPECIALIZATION MODULES)				Subject code: 16.1WK113AIJ2985_43S	
Faculty: US sports diagnostics					
Form of study: Bachelor's degree, full-time		Profile of education: . the general academic		Specialty:	
Course status: optional			Lecture language: semester: 6 - polish		
Year:	Semester:	Form of classes	Hours	form of crediting a course	ECTS
3	6	seminar	15	ZO	3
		lecture	15	ZO	
SUM			30		3
Subject coordinator	dr hab. KATARZYNA SYGIT				
Aim of the course	To familiarize with the specifics of sports injuries and the diagnosis, prevention and treatment of the most common clinical problems. To develop rehabilitation skills in athletes depending on the type of injury.				
Prerequisites requirements:	Knowledge of the basics of human anatomy and physiology and biomechanics and ergonomics. Ability to apply functional tests and to conduct kinesitherapy. Teamwork and interpersonal communication.				
LEARNING OUTCOMES					
Category	Nr	Code	Description of directional learning outcomes	Symbol and number of learning outcomes according to the teaching program	
Knowledge	1	EP1	has knowledge of the physicochemical and biological basis of health sciences and physical culture sciences	K_W01	
Skills	1	EP5	can analyse the impact of the external environment on the occurrence of injuries in sport	K_U07	
Social competence	1	EP8	is able to set priorities and observe ethical principles in decisions and actions taken in relation to the athlete/competitor	K_K02	
Course content				Semester	Hours
Subject: The basics of physiotherapy in sport					
Lectures					
1. The place and role of physical therapy in medicine. Types of physical factors.			6	2	
2. Mechanisms of human thermoregulation and their role during the influence of thermal physical factors. Biological effects of thermal factors influence on the body.			6	2	
3. Biological effects of mechanical and thermal factors influence in hydrotherapy.			6	2	
4. The physical basis for the use of ultraviolet (UV), infrared (IR) and visible light in physical therapy. Biological effects of UV, IR and visible light on human body			6	2	
5. Low- and high-energy laser therapy. Features of laser radiation and the physical basis of its formation. Biological effects of laser biostimulation. Photodynamic therapy. Physical properties of the ultrasound wave and biological effects of ultrasound on human body.			6	4	
6. The physical properties of the ultrasound wave and the biological effects of ultrasound on the human body.			6	3	
Seminars					
1. Definition of wellness, inches and tasks.			6	3	
2. Wellness methods and measures. Principles of applying wellness.			6	3	
3. Typical injuries in sports rules of conduct.			6	3	

4.	Use of physical stimuli in sport? dry sauna, cryotherapy, hydrotherapy in training process.	6	3		
5.	Sports massage, purpose, tasks, mechanism of action. Preventive and therapeutic massage used in biological regeneration. Taping in the prevention and treatment of diseases and injuries of the musculoskeletal system in an athlete.	6	3		
Teaching methods	Health aspects of physical activity; Health prevention in sport; Basics of physiotherapy in sport The lecture: Lecture with multimedia presentation Conversation exercises: multimedia presentation, preparation and conduct of classes, practical classes, solving problematic tasks, discussion. Student's own work: work with a book, analysis and thematic review of literature - preparation of classes on a chosen topic.				
Verification methods for intended learning outcomes			Number of learning outcome		
	COLLOQUIUM		EP1,EP5		
	TEST		EP1		
	WRITTEN WORK/ ESSAY/REVIEW		EP1,EP5		
	PROJECT		EP1,EP5,EP8		
	PRACTICAL ACTIVITIES (VERIFICATION BY OBSERVATION)		EP1,EP5,EP8		
The form and conditions for receiving credit	final credit includes - positive credit of the final lecture written colloquium and positive credit of the exercises: practice classes, written work.				
	Rules for calculating the final grade				
	The final grade for passing the course is the arithmetic mean of grades from exercises and lectures.				
Method of calculating the final grade	Sem.	Subject	Form of credit	Method of calculating the grade	weight to average
	5	The basics of physiotherapy in sport		arithmetic	
	5	The basics of physiotherapy in sport [lecture]	credit with grade		
	5	The basics of physiotherapy in sport [seminars]	credit with grade		
Recommended literature					
Up to date literature about the physiotherapy in sport					
Optional literature					
STUDENT WORKLOAD					
Classes		30			
Participation in the exam / pass		2			
Preparation for classes		20			
Studying literature		8			
Participation in consultations		5			
Preparation of the project / essay		0			
Preparing for the exam / passing		10			
TOTAL student workload		75			
Number of ECTS points		3			
Course: Theory and methodology of the team sports (DIRECTIONAL)			Subject code: US113AIJ2986_74S		
Faculty: US sports diagnostics					
Form of study: Bachelor's degree, full-time		Profile of education: . the general academic		Specialty:	

Course status: obligatory			Lecture language: semester 3 - polish, semestr 4 - polish		
Year:	Semester:	Form of classes	Hours	form of crediting a course	ECTS
2	3	exercises	45	ZO	3
	4	exercises	15	ZO	4
lecture		15	E		
SUM			75		7
Subject coordinator	dr BEATA FLORKIEWICZ				
Aim of the course	Acquisition by students of competences in the field: - performing and teaching the basics of technology and tactics of selected team sports - diagnosis of special fitness and the quantitative and qualitative components of the game in selected team sports Acquiring competence to promote health-oriented behaviour and to take care of one's own physical fitness.				
Prerequisites requirements:	none				
LEARNING OUTCOMES					
Category	Nr	Code	Description of directional learning outcomes	Symbol and number of learning outcomes according to the teaching program	
Knowledge	1	EP1	has an elementary knowledge of team game theory as a form of sports and recreational activity. He knows the technique of performing specialized skills from sports games and he knows and describes in a proper way the methodology of shaping and diagnosing basic elements of movement technique.	K_W05	
	2	EP2	defines the basic systems and rules of the game, lists and explains the rules of games of sports; distinguishes between specialized terminology used in the process of training in sport and recreation.	K_W05	
Skills	1	EP3	demonstrates specialist motor skills in the basic elements of team game technique and tactics necessary to conduct training in sport and recreation.	K_U01	
	2	EP4	uses the basic equipment necessary to carry out sports and recreational activities in the field of team games in accordance with the principles of safety of himself and the participants.	K_U04	
	3	EP5	applies basic level assessment methods special skills in sports games and analysis of game components and can interpret the results of research in this area.	K_U12	
	4	EP6	constructs a sports activity program recreational sports games for people of all ages, taking into account the appropriate workload.	K_U12	
Social competence	1	EP7	is ready to cooperate in the team and has the competence to get involved in the work of the group assuming various roles including the initiator of the exercises, the referee	K_U13	
	2	EP8	is aware of the need to clearly communicate knowledge of sports games to participants in the training process in sport and recreation.	K_U13	
	3	EP9	is willing to take responsibility for health and safety of participants in sports and recreation game programs.	K_K04	
	4	EP10	makes a proper self-assessment of its own competence and is aware of the need to maintain an appropriate level of physical fitness for professional work.	K_K06	
Course content				Semester	Hours
Subject: Theory and methodology of the team sports					
Lectures					
1. Sports games as a form of physical activity for people of all ages.				4	1
2. Rules of the game (basketball, handball, volleyball, football).				4	4
3. Stages of sports training in team games.				4	2

4.	The conditions of achievements in sports games: morphological, motor and psychological factors.	4	2		
5.	Diagnosis of special fitness in sports games	4	2		
6.	Quantitative and qualitative analysis of the game components.	4	2		
7.	Teaching sports games - the TGfU (Teaching Games for Understanding) concept.	4	2		
Exercises					
1.	Tame the balls	3	9		
2.	Games and fun in teaching sports games	3	13		
3.	The performance technique and methodology of teaching the basic technical elements of sports games (basketball, handball, volleyball, football)	3	23		
4.	Technical and tactical activities (basketball, handball, volleyball, football), analysis of game components.	4	6		
5.	Organisation and conduct of sports and recreation activities in sports games	4	2		
6.	Special efficiency tests.	4	7		
Teaching methods	<ul style="list-style-type: none"> - multimedia presentation - theoretical and practical methods of operation (reproducible and creative) - teamwork - simulation games 				
Verification methods for achieving intended learning outcomes			Number of learning outcome		
	WRITTEN EXAM		EP1,EP2		
	PROJECT		EP6,EP7,EP8,EP9		
	PRACTICAL ACTIVITIES (VERIFICATION BY OBSERVATION)		EP10,EP3,EP4,EP5		
The form and conditions for receiving credit	Passing the exercises: 1. Attendance and active participation in all exercises. 2. Practical credit for the basic elements of technique in sports games. 3. Credit for the group project of conducting a special fitness test or quantitative and qualitative analysis of the game components in a selected team game (subject to assessment: 4. Credit of the group project: organization and conduct of the program of recreational and sports activities from sports games (the presentation, substantive preparation, safety and organization of classes for a selected age group, attitude of the instructor are evaluated) Credit of the lecture 5. Written examination covering theoretical knowledge (questions requiring longer written expression including terminology and nomenclature in the field of technique and methodology teaching basic elements of the game, knowledge of the diagnosis of special skills). All points from 2 to 5 must be given to achieve a sufficient minimum mark.				
	Rules for calculating the final grade				
	The grade is a weighted average of the final grade from 60% exercises and 40% lectures.				
Method of calculating the final grade	Sem.	Subject	Form of credit	Method of calculating the grade	weight to average
	3	Theory and methodology of the team sports		weighted	
	3	Theory and methodology of the team sports [exercises]	credit with grade		1,0
	4	Theory and methodology of the team sports		weighted	
	4	Theory and methodology of the team sports [exercises]	credit with grade		0,6
	4	Theory and methodology of the team sports [lecture]	exam		0,4
Recommended literature					
Up to date literature about theory and methodology of the team sports.					
Optional literature					
STUDENT WORKLOAD					
		Number of hours			
Classes		75			

Participation in the exam / pass	4
Preparation for classes	25
Studying literature	15
Participation in consultations	16
Preparation of the project / essay	25
Preparing for the exam / passing	15
TOTAL student workload	175
Number of ECTS points	7