LITHUANIAN SPORTS UNIVERSITY

STUDY MODULE PROGRAMME (SMP)

Module Code	B	470	B	001	Accredited until				Renewal date		
	Branch of Science		Progr.	Registr. №.							

Entitlement

Sports and Exercise Physiology

Prerequisites

Course (module) Learning Outcomes

№.	Learning Outcomes	Teaching / Learning Methods	Assessment Methods
1	Define the knowledge, theories and principles of general and sports and exercise physiology that form the basis of professional qualifications, be able to extrapolate them while developing subject competencies	Case analysis (Case study), Discussion, Formal lecture, Laboratory classes, Problem-based learning, Reflection on action, Seminar	Directed private laboratory work, Laboratory examination, Laboratory notes and report, Oral presentation, Test
2	To be able to express thoughts in a reasoned manner when preparing public reports, participating in discussions	Case analysis (Case study), Discussion, Seminar	Oral presentation, Seminar
3	To be able to apply, analyze and interpret the methods of functional diagnostics of the activity of the body's systems, to assess the functional powers of athletes	Case analysis (Case study), Discussion, Laboratory classes, Seminar	Directed private laboratory work, Laboratory examination, Laboratory notes and report, Oral presentation, Seminar, Test
4	Be able to study and work independently and take responsibility	Case analysis (Case study), Discussion, Laboratory classes, Literature analysis, Seminar	Background reading, Directed private laboratory work, Laboratory examination, Laboratory notes and report, Oral presentation, Seminar, Test
5	Be able to find and understand contemporary scientific ideas arising from fundamental and applied science and practice	Case analysis (Case study), Discussion, Formal lecture, Laboratory classes, Literature analysis, Problem-based learning, Reflection on action, Seminar	Directed private laboratory work, Laboratory examination, Laboratory notes and report, Oral presentation, Reflection on action, Seminar, Test
6	Be able to creatively and constantly learn from the achievements of modern fundamental and applied science and creatively apply them in professional activities	Case analysis (Case study), Discussion, Formal lecture, Laboratory classes, Literature analysis, Problem-based learning, Reflection on action, Seminar	Directed private laboratory work, Laboratory examination, Laboratory notes and report, Oral presentation, Reflection on action, Seminar, Test
7	Understand the biomedical mechanisms of physical activity	Case analysis (Case study), Discussion, Formal lecture, Laboratory classes, Literature analysis, Problem-based learning, Reflection on action, Seminar	Directed private laboratory work, Laboratory examination, Laboratory notes and report, Oral presentation, Reflection on action, Seminar, Test

№.	Learning Outcomes	Teaching / Learning Methods	Assessment Methods
8	Define and explain the functions of the human body	Case analysis (Case study), Discussion, Formal lecture, Laboratory classes, Literature analysis, Problem-based learning, Reflection on action, Seminar	Directed private laboratory work, Laboratory examination, Laboratory notes and report, Oral presentation, Reflection on action, Seminar, Test
9	Define and explain the processes that occur in the human body during different physical exercises	Case analysis (Case study), Discussion, Formal lecture, Laboratory classes, Literature analysis, Problem-based learning, Reflection on action, Seminar	Directed private laboratory work, Laboratory examination, Laboratory notes and report, Oral presentation, Reflection on action, Seminar, Test

Main aim - to familiarize with the structural and functional changes of the human body due to the short-term and long-term adaptations to exercise.

Summary

Acute responses to physical activity. Anticipation, on-transition, fatigue, recovery. Organism adaptation under influence of endurance and strength developing training loads. The physiological basis of endurance and strength training. Testing of aerobic and anaerobic capacity. Long-term adaptation of the human organism during chronic physical activity. Adaptation and performance under different environmental conditions. Age and sex influence on the adaptation to training loads.

Level of module

Level of programme		Subject group (under the regulation of the area)
Cycle	Type	
First	Bachelor	Mokslo srities pagrindų

Group under financial classification

5.Fizinių, biomedicinos, technologijos mokslų studijos (išskyrus nurodytąsias 6, 7, 11, 13, 14 ir 16 punktuose)

Syllabus

№.	Sections and themes	Responsible lecturer
1.	CNS physiology. Motor system	
2.	Physiology of sensory systems	
3.	Skeletal muscle physiology	
4.	Respiratory physiology at rest and during exercise	
5.	Physiology of cardiovascular system at rest and during exercise	
6.	Endocrine system and adaptations to exercise	
7.	Physiology of digestive system and functional changes during exercise	
8.	Renal function at rest and during exercise	
9.	Regulation of water and electrolytes metabolism at rest and during exercise	
10.	General principles of acute responses to exercise	
11.	Physiology of long-term adaptation to exercise	
12.	Physiology of aerobic and anaerobic capacity and their training	
13.	Physiology of strength, speed, flexibility and their training	
14.	Adaptation of the organism and physical performance in various environmental conditions	
15.	Women's physical work capacity and adaptation to physical loads	
16.	Peculiarities of adaptation to physical activity by people of different ages	
17.	Influence of genetic science achievements on the development of sports and exercise physiology	

Evaluation procedure of knowledge and abilities:

Ten grade criterion scale and summative evaluation system are applied. The semester’s individual work tasks are evaluated by grades; the final grade is given during the examination session while multiplying particular grades by the lever coefficient and summing up the products.

References

№	Title	Edition in Lithuanian Sports University library		In Lithuanian Sports University bookstore	Number of ex. in the methodical cabinet of the depart.
		Pressmark	Number of exemplars		
1.	http://www.lsu.lt/ Emokymas			No	
2.	Lt sistema, https://accounts.kuracloud.com/user/login?instance=88287b84&product=adinstruments			No	

Additional literature

№.	Title
1.	Kenny W.L Wilmore J.H., Costill D.L.,. Physiology of sport and exercise. Human kinetics, 2021.

Coordinating lecturer

Position	Degree, surname, name	Schedule №.
		54

Subdivision

Entitlement	Code
a	2006

Study module teaching form №. 1

Semester		Mode of studies	Structure				Total hours	Credits
			Theory	Seminars	Lab Works	Ind. work		
A	S	D	31	6	28	195	260	10

Languages of instruction:

Lithuanian	L	English	E	Russian	R	French	F	German	G	Other	Oth.

Plan of in-class hours

№. of Themes	Academic hours			№. of Themes	Academic hours		
	Theory	Seminars	Lab Works		Theory	Seminars	Lab Works
1.	1	0	0	10.	1	1	0
2.	2	0	0	11.	6	0	8
3.	1	0	0	12.	1	0	0
4.	2	0	4	13.	3	0	4
5.	1	0	0	14.	3	0	4
6.	1	0	4	15.	3	1	0
7.	1	0	4	16.	1	1	0
8.	1	1	0	17.	1	1	0
9.	1	1	0	18.	1	0	0
				Total:	31	6	28

Schedule of individual work tasks and their influence on final grade

	№. of syllabus	Total hours	Influence on grade, %	Week of presentment of task (*) and reporting (o)															
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17-20
Test	2-17	20	15	*				0			0				0					
Directed private laboratory work	2-14	22	5	*												0				
Exam	2-17	40	35	*																0

	№. of syllabus	Total hours	Influence on grade, %	Week of presentment of task (*) and reporting (o)															
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17-20
Laboratory notes and report	2-14	40	25		*						0						0			
Seminar	2-17	33	10													*			0	
Oral presentation	2-17	40	10													*			0	
Total:	-	195	100																	

Study module teaching form №. 2

Semester		Mode of studies	Structure				Total hours	Credits
			Theory	Seminars	Lab Works	Ind. work		
A	S	N	31	6	28	195	260	10

Languages of instruction:

Lithuanian	L	English	E	Russian	R	French	F	German	G	Other	Oth.

Plan of in-class hours

№. of Themes	Academic hours			№. of Themes	Academic hours		
	Theory	Seminars	Lab Works		Theory	Seminars	Lab Works
1.	1	0	0	10.	1	1	0
2.	2	0	0	11.	6	0	8
3.	1	0	0	12.	1	0	0
4.	2	0	4	13.	3	0	4
5.	1	0	0	14.	3	0	4
6.	1	0	4	15.	3	1	0
7.	1	0	4	16.	1	1	0
8.	1	1	0	17.	1	1	0
9.	1	1	0	18.	1	0	0
				Total:	31	6	28

Schedule of individual work tasks and their influence on final grade

	№. of syllabus	Total hours	Influence on grade, %	Week of presentment of task (*) and reporting (o)															
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17-20
Directed private laboratory work	2-14	22	5						*	*	0									
Exam	2-17	40	35						*											0
Laboratory notes and report	2-14	40	25						*											0
Seminar	2-17	33	10							*										0
Test	2-17	20	15							*										0
Oral presentation	2-17	40	10							*										0
Total:	-	195	100																	

Study module teaching form №. 3

Semester		Mode of studies	Structure				Total hours	Credits
			Theory	Seminars	Lab Works	Ind. work		
A	S	D	31	6	28	195	260	10

Languages of instruction:

Lithuanian	L	English	E	Russian	R	French	F	German	G	Other	Oth.

Plan of in-class hours

№. of Themes	Academic hours			№. of Themes	Academic hours		
	Theory	Seminars	Lab Works		Theory	Seminars	Lab Works
1.	1	0	0	10.	1	1	0
2.	2	0	0	11.	6	0	8
3.	1	0	0	12.	1	0	0
4.	2	0	4	13.	3	0	4
5.	1	0	0	14.	3	0	4
6.	1	0	4	15.	3	1	0
7.	1	0	4	16.	1	1	0
8.	1	1	0	17.	1	1	0
9.	1	1	0	18.	1	0	0
				Total:	31	6	28

Schedule of individual work tasks and their influence on final grade

	№. of syllabus	Total hours	Influence on grade, %	Week of presentment of task (*) and reporting (o)															
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17-20
Test	2-17	20	15	*				o				o			o					
Directed private laboratory work	2-14	22	5	*											o					
Laboratory notes and report	2-14	40	25	*												o				
Exam	2-17	40	35	*																o
Seminar	2-17	33	10												*			o		
Oral presentation	2-17	40	10												*			o		
Total:	-	195	100																	

Study module teaching form №. 4

Semester		Mode of studies	Structure				Total hours	Credits
			Theory	Seminars	Lab Works	Ind. work		
A	S	N	31	6	28	195	260	10

Languages of instruction:

Lithuanian	L	English	E	Russian	R	French	F	German	G	Other	Oth.

Plan of in-class hours

№. of Themes	Academic hours			№. of Themes	Academic hours		
	Theory	Seminars	Lab Works		Theory	Seminars	Lab Works
1.	1	0	0	10.	1	1	0
2.	2	0	0	11.	6	0	8
3.	1	0	0	12.	1	0	0
4.	2	0	4	13.	3	0	4
5.	1	0	0	14.	3	0	4
6.	1	0	4	15.	3	1	0
7.	1	0	4	16.	1	1	0
8.	1	1	0	17.	1	1	0
9.	1	1	0	18.	1	0	0
				Total:	31	6	28

Schedule of individual work tasks and their influence on final grade

	№. of syllabus	Total hours	Influence on grade, %	Week of presentment of task (*) and reporting (o)															
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17-20
Directed private laboratory work	2-14	22	5						*	0										
Exam	2-17	40	35						*											0
Laboratory notes and report	2-14	40	25						*											0
Test	2-17	20	15						*											0
Seminar	2-17	33	10							*										0
Oral presentation	2-17	40	10							*										0
Total:	-	195	100																	