LITHUANIAN SPORTS UNIVERSITY

STUDY MODULE PROGRAMME (SMP)

Module Code	B	710	B	123	Accredited until				Renewal date		
	Branch of Science		Progr.	Registr. №.							

Entitlement

Kinesiology

Prerequisites

Modules of Biomedical sciences, Basics in Physiotherapy

Course (module) Learning Outcomes

№.	Learning Outcomes	Teaching / Learning Methods	Assessment Methods
1	To be able to learn and work independently and take responsibility for it.	Exercise classes, Group work, Literature analysis, Simulation (engineering, technology or process simulation)	Group work, Test
2	To be able to examine and interpret functional features of skeletal muscles, bones, joints and axial skeleton.	Exercise classes, Formal lecture, Practical exercises (tasks)	Reporting for practice work, Test
3	Integrate knowledge of anatomy, functional anatomy and biomechanics.	Formal lecture	Test
4	To be able to create, apply and justify applied physical exercises.	Exercise classes	Group work

Main aim

Develop the ability based on biomedical science and proven expertise to examine movement patterns and features of bones, muscles, joints, skeleton of the healthy, orthopedic patient who had experienced trauma, has skeletal-muscle system pathologies, orthopedic conditions. Develop the ability to create, adapt and justify an applied physical exercises.

Summary

The module provides science-based kinesiology. Movement models and interactions between bones, muscles, joints, axial skeleton are discussed in the module. Pathokinesiological models of orthopedic patient are discussed. Students assimilate theoretical knowledge related to structure and function of each anatomical region. Students gain practical skills of application of kinesiology, ability to understand and justify the essence of movement. Analysis of the area relevant scientific articles is included into module activities.

Level of module

Level of programme		Subject group (under the regulation of the area)
Cycle	Type	
First	Bachelor	Specialaus lavinimo

Group under financial classification

Syllabus

№.	Sections and themes	Responsible lecturer
1.	Introduction, module structure, evaluation criteria.	
2.	Basics of kinesiology. Ostheokinematics.	
3.	Arthrokinematics. Muscle and joint interaction.	
4.	Kinetics. Strength, tork, lever arm.	
5.	Static and dynamic function of the muscle. Muscle action direction, vectors	
6.	Kinematics and kinetics of the axial skeleton.	
7.	Breathing kinesiology, muscle and joint interaction.	
8.	Mustication and TMJ kinesiology and pathokinesiology.	
9.	Shoulder kinesiology, kinematics, kinetics, pathokinesiology.	
10.	Elbow and forearm, kinematics, kinetics, pathokinesiology.	

№.	Sections and themes	Responsible lecturer
11.	Wrist and hand kinematics, kinetics, pathokinesiology.	
12.	Pelvis and hip kinematics, kinetics, pathokinesiology.	
13.	Knee kinematics, kinetics, pathokinesiology.	
14.	Ankle and foot kinesiology.	

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.	Donald A. Neumann. Kinesiology of the Musculoskeletal System: Foundations for Rehabilitation.(2016). Hardcover: 784 p. Mosby; 3 edition			No	

Additional literature

№.	Title
1.	Malloy, P., Neumann, D. A., & Kipp, K. (2019). Hip Biomechanics During a Single-Leg Squat: 5 Key Differences Between People With Femoroacetabular Impingement Syndrome and Those Without Hip Pain. Journal of Orthopaedic & Sports Physical Therapy, 49(12), 908-916.
2.	Camargo, P. R., & Neumann, D. A. (2019). Kinesiologic considerations for targeting activation of scapulothoracic muscles–part 2: trapezius. Brazilian journal of physical therapy.
3.	Deering, R. E., Senefeld, J., Pashibin, T., Neumann, D. A., Cruz, M., & Hunter, S. K. (2018). Fatigability of the lumbopelvic stabilizing muscles in women 8 and 26 weeks postpartum. Journal of Women's Health Physical Therapy, 42(3), 128-138.
4.	Deering, R. E., Senefeld, J. W., Pashibin, T., Neumann, D. A., & Hunter, S. K. (2017). Muscle function and fatigability of trunk flexors in males and females. Biology of sex differences, 8(1), 12.
5.	Neumann, D. A. (2010). Kinesiology of the hip: a focus on muscular actions. journal of orthopaedic & sports physical therapy, 40(2), 82-94.
6.	Žmogaus anatomija.

Coordinating lecturer

Position	Degree, surname, name	Schedule №.
Associate Professor		670

Subdivision

Entitlement	Code
	2001

Study module teaching form №. 1

Semester		Mode of studies	Structure				Total hours	Credits
			Theory	Seminars	Lab Works	Ind. work		
A	S	D	30	0	30	200	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	8.	2	0	2

№. of Themes	Academic hours			№. of Themes	Academic hours		
	Theory	Seminars	Lab Works		Theory	Seminars	Lab Works
2.	1	0	0	9.	4	0	4
3.	1	0	0	10.	3	0	2
4.	1	0	0	11.	3	0	4
5.	1	0	1	12.	4	0	4
6.	3	0	6	13.	3	0	2
7.	0	0	1	14.	3	0	4
				Total:	30	0	30

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	1-10	70	35	*			0													
Test	11-20	70	35	*						0										
Test	21-30	60	30	*									0							
Total:	-	200	100																	