



LITHUANIAN SPORTS UNIVERSITY

STUDY MODULE PROGRAMME (SMP)

Module Code	B	710	B	120	Accredited until				Renewal date		
	Branch of Science		Progr.	Registr. №.							

Entitlement

Pathology

Prerequisites

Anatomy, physiology

Course (module) Learning Outcomes

№.	Learning Outcomes	Teaching / Learning Methods	Assessment Methods
1	Will know the main pathological and adaptive changes in the human body during various conditions or diseases.	Case analysis (Case study), Discussion, Scientific paper analysis	Literature reviewing and presentation, Mid-term examination, Scientific paper (text) analysis
2	Will be able to have the basics of clinical thinking based on the knowledge of biomedical sciences.	Case analysis (Case study), Discussion, Scientific paper analysis	Literature reviewing and presentation, Mid-term examination, Scientific paper (text) analysis
3	Will be able to collect, analyze and critically interpret patient-related subjective and objective information.	Case analysis (Case study), Discussion, Literature analysis, Scientific paper analysis	Literature reviewing and presentation, Mid-term examination, Scientific paper (text) analysis

Main aim

The main aim is to develop understanding of clinical reasoning based on biomedical science knowledge, ability to collect, analyze and critically interpret subjective and objective information of patient, ability to understand factors that might affect general and specific personal situation, ability to fully participate in purposefully put together multi-disciplinary group activity.

Summary

Major pathological and adaptive changes in the human body. The immune response. The most common genetic diseases.

Level of module

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

Group under financial classification

Syllabus

№.	Sections and themes	Responsible lecturer
1.	Introduction to clinical genetics.	
2.	Chromosomal Diseases: Down Syndrome, Patau Syndrome, Edwards Syndrome, Klinefelter Syndrome, Jacob Syndrome, Turner Syndrome,	
3.	Genetic diseases. Autosomal Diseases. Neurofibromatosis, Mucoviscytosis, Phenylketunuria, sickle cell anemia, Marfan syndrome.	
4.	Genetic Engineering. Gene therapy. Gene doping.	
5.	Introduction to General Pathology and Pathophysiology. Inflammation, causes, pathogenesis.	
6.	Thermoregulation disorders. Fever, etiology and pathogenesis.	
7.	General and local blood circulatory disorders. Arterial, venous hyperemia, ischemia, thrombosis, infarction, bloodshed.	
8.	Tissue regeneration and metaplasia.	
9.	Benign and malignant tumor growth.	
10.	Tissue and cell atrophy, hypertrophy and hyperplasia.	

№.	Sections and themes	Responsible lecturer
11.	Metabolic disorders: protein, fat, carbohydrates, minerals.	
12.	Introduction to Clinical Immunology. Congenital immunity and disorders. Acquired immunity and disorders	
13.	Immune system pathology	
14.	Allergy, etiology and pathogenesis, allergic reactions.	
15.	Vaccination of children and adults.	

Evaluation procedure of knowledge and abilities:

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.	Physical activity and risk of cardiovascular disease by weight status among U.S adults. Zhang et al. PLOS ONE; 08 May 2020.			Yes	
2.	Atherothrombosis Prevention and Treatment with Anti-interleukin-1 Agents. Biondi-Zoccai G, Garmenda CM, Abbate A, Giordano A, Frati G, Sciarretta S, Antonazzo B, Versaci F. Curr Atheroscler Rep. 2020 Jan 13;22(1):4.			Yes	
3.	Cognitive behavioral therapy or graded exercise therapy compared with usual care for severe fatigue in patients with advanced cancer during treatment: a randomized controlled trial. Poort H, Peters MEWJ, van der Graaf WTA, Nieuwkerk PT, van de Wouw AJ, Nijhuis-van der Sanden MWG, Bleijenberg G, Verhagen CAHHVM, Knoop H. Ann Oncol. 2020 Jan;31(1):115-122.			Yes	
4.	Perceptions towards physical activity in adult lung transplant recipients with cystic fibrosis. Wietlisbach et al. PLOS ONE; 21 Feb 2020.			No	
5.	Total daily physical activity, brain pathologies, and parkinsonism in older adults. Oveisgharan et al. PLOS ONE; 29 Apr 2020.			Yes	
6.	2019-Novel Coronavirus-Related Acute Cardiac Injury Cannot Be Ignored. Wang et al. Curr Atheroscler Rep.01 March 2020.			Yes	
7.	Down syndrome and Alzheimer's disease: common molecular traits beyond the amyloid precursor protein. Gomez W, Morales R, Maracaja-Coutinho V, Parra V, Nassif M. Aging (Albany NY). 2020 Jan 9;11			Yes	
8.	Multiorgan involvement and management in children with Down Syndrome. Lagan N, Huggard D, Mc Grane F, Leahy TR, Franklin O, Roche E, Webb D, O' Maricaigh A, Cox D, Elkuffash A, Greally P, Balfe J, Molloy EJ. Acta Paediatr. 2020 Jan 3.			Yes	
9.	Socio-ecological correlates of physical activity in breast and colon cancer survivors 4 years after participation in a randomized controlled exercise trial. Hiensch et al. PLOS ONE; 16 Apr 2020.			Yes	

№.	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		
10.	The ICF-CY as a framework for the management of spinal muscular atrophy in the era of gene therapy: a proof-of-concept study. Trabacca A, Lucarelli E, Pacifico R, Vespino T, Di Liddo A, Losito L. Eur J Phys Rehabil Med. 2020 Jan 14.			Yes	

Additional literature

№.	Title
1.	The effect of swimming program on body composition levels in adolescents with Down syndrome. Suarez-Villadat B, Luna-Oliva L, Acebes C, Villagra A. Res Dev Disabil. 2020 May 8;102:103643. doi: 10.1016/j.ridd.2020.103643.
2.	Quantitative and qualitative Ductus Venosus blood flow evaluation in the screening for Trisomy 18 and 13 - suitability study. Czuba B, Nycz-Reska M, Cnota W, Jagielska A, Wloch A, Borowski D, Wegrzyn P. Ginekol Pol. 2020;91(3):144-148. doi: 10.5603/GP.2020.0031.
3.	Potential Increased Risk of Trisomy 18 Observed After a Fertilizer Warehouse Fire in Brazos County and TX. Xu X, Zhang X, Han J, Adamu Y, Zhang B. Int J Environ Res Public Health. 2020 Apr 8;17(7). pii: E2561. doi: 10.3390/ijerph17072561.
4.	Physiotherapy interventions for pain management in haemophilia: A systematic review. McLaughlin P, Hurley M, Chowdary P, Khair K, Stephensen D. Haemophilia. 2020 May 13. doi: 10.1111/hae.14030.
5.	Hypoplasia of cerebellar afferent networks in Down syndrome revealed by DTI-driven tensor based morphometry. Lee NR, Nayak A, Irfanoglu MO, Sadeghi N, Stoodley CJ, Adeyemi E, Clasen LS, Pierpaoli C. Sci Rep. 2020 Mar 25;10(1):5447. doi: 10.1038/s41598-020-61799-1.
6.	36. Integrated functional genomic analyses of Klinefelter and Turner syndromes reveal global network effects of altered X chromosome dosage. Zhang X, Hong D, Ma S, Ward T, Ho M, Pattni R, Duren Z, Stankov A, Bade Shrestha S, Hallmayer J, Wong WH, Reiss AL, Urban AE. Proc Natl Acad Sci U S A. 2020 Mar 3;117(9):4864-4873. doi: 10.1073/pnas.1910003117. Epub 2020 Feb 18.

Coordinating lecturer

Position	Degree, surname, name	Schedule №.
Associate Professor		40

Subdivision

Entitlement	Code
Department of Health Promotion and Rehabilitation	2006

Study module teaching form №. 1

Semester	Mode of studies	Structure				Total hours	Credits	
		Theory	Seminars	Lab Works	Ind. work			
A	S	D	15	15	0	100	130	5

Languages of instruction:

Lithuanian	L	English	E	Russian	R	French	F	German	G	Other	Oth.
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Plan of in-class hours

№. of Themes	Academic hours			№. of Themes	Academic hours		
	Theory	Seminars	Lab Works		Theory	Seminars	Lab Works
1.	1	1	0	9.	1	1	0
2.	1	1	0	10.	1	1	0
3.	1	1	0	11.	1	1	0
4.	1	1	0	12.	1	1	0
5.	1	1	0	13.	1	1	0
6.	1	1	0	14.	1	1	0
7.	1	1	0	15.	1	1	0
8.	1	1	0				

