

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Medicine	
Course ID: ULBL/ MHB-DM2/15	Course name: Medical and Human Biology 2
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 2 Per study period: 28 / 28 Course method: present	
Number of ECTS credits: 5	
Recommended semester/trimester of the course: 2.	
Course level: I.II.	
Prerequisites: ULBL/MHB-DM1/15	
Conditions for course completion: All practical lessons (100%) are obligatory for all students. Assessment of the student's learning achievements is carried out as a combination of continuous monitoring of the study during the teaching part of the semester (40%) with the final examination for the period of the semester concerned (60%). Prerequisite for the final examination (to register for the final examination) is the acquirement of 20 points minimum from continuous assessments during the semester.	
Learning outcomes: To introduce the basic concepts of general biology and human genetics, including mutations and their role in pathogenesis in human diseases, Mendelian genetics, quantitative and population genetics. To give students a thorough grounding in the theoretical and practical foundations of basic genetics. Students have acquired an understanding of the major concepts in human and molecular genetics and have obtained basic information related to genetic and molecular biology methods in clinical practice.	
Brief outline of the course: Mutations - classification of mutations, mechanisms of mutagenesis. The gene mutations and inherited pathological traits in man. Chromosomal aberrations, aneuploidy, polyploidy, chromosomal aberrations in human diseases. Mendelian inheritance, historical overview, general characteristics, Mendel's laws of inheritance. X-linked inheritance, Lyon hypothesis. Gene linkage. Immunogenetics, general features, structure and function of antigens and antibodies, immune response, transplantation genetics. HLA system, blood group systems. Population genetics, Hardy-Weinberg law, population equilibrium, panmixis, inbreeding, genetic drift, eugenics, euphenics. Human genetics – genealogy, genetics of twins. Variability of gene expression, genetic polymorphism. Carcinogenesis, molecular biology methods in cancer diagnostics. Cell signalling pathways and molecular targeted therapy. Molecular biology methods and their application in clinical practice. Genomics and medicine. Ethical issues in human genetics.	
Recommended literature: Židzik J. et al.: Medical Biology and Genetics. Second edition, Equilibria, 2015, 296 p. Mičková et al.: Biology: practical lessons. Second edition, Equilibria, 2020, 98 p.	

Course language:					
Notes:					
Course assessment					
Total number of assessed students: 522					
A	B	C	D	E	FX
6.13	14.18	17.62	27.2	27.97	6.9
Provides: prof. RNDr. Ján Šalagovič, PhD., RNDr. Helena Mičková, PhD., RNDr. Jozef Židzik, PhD., RNDr. Lucia Klimčáková, PhD., RNDr. Viera Habalová, PhD., doc. RNDr. Peter Solár, PhD., RNDr. Martina Šemeláková, PhD., RNDr. Eva Slabá, PhD.					
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Approved:					