

Study programme	MEDICAL STUDIES IN ENGLISH				
Cycle	INTEGRATED	Type	UNIVERSITY		
Study track	-	Module	-		
Year of study	2	Semester	III		
Course title	MEDICAL GENETICS	Course code	MFMSE302		
ECTS	3	Status	OBLIGATORY		
Teaching hours		Lectures	Exercises	Seminars	Practice
		20	5	20	0
Teachers	Professor Jurica Arapović, MD, PhD	5	0	0	
	Assoc. prof. Maja Arapović, PhD	5	0	0	
	Assist. prof. Božo Šušak, MD, PhD	5	0	12	
	Assist. prof. Una Glamočlija, PhD	5	0	0	
	Senior assist. Maja Barbarić, MD, PhD	0	3	4	
	Assist. Martina Vukoja	0	2	4	
Course objectives	<p>The objectives of the Medical Genetics course are:</p> <ul style="list-style-type: none"> - to introduce medical students with basic facts in medical genetics; - introduce students to concepts in human medical genetics and train them to understand genetics' point of view on health and disease; - describe and explain the basics of a comprehensive approach to a patient with a genetic disease or disorder, or an increased risk for specific disease. 				
Course learning outcomes	Learning outcome (LO) Student:		Course learning outcome code	LO code at the study program level	
	Describes and explains types of genetic disorders as causes of diseases and medical conditions.		IU- MFMSE302-1	IU-MSE1	
	Describes and explains the types and outcomes of genetic testing according to groups of indications and elaborates the advantages and limitations of genetic tests and the methods used.		IU- MFMSE302-2	IU-MSE3	
	Distinguishes the effects of genetic variability on the therapeutic outcome, and selects the appropriate method of genetic testing according to the indication and the genetic cause of the disease, interprets the basic elements of genetic testing findings.		IU- MFMSE302-3	IU-MSE6 IU-MSE8	
	Applies basic communication skills in explaining genetic information.		IU- MFMSE302-4	IU-MSE9	
	Searches diagnostic and educational databases of genetic diseases.		IU- MFMSE302-5	IU-MSE7	
Prerequisites for the course enrolment	In accordance with the Rulebook on the Integrated Studies at the School of Medicine University of Mostar				
Course content	Week / shift	Topic			
	Lectures	(L1) Introduction to Medical genetics (L2) Functional genomics and proteomics (L3) Genomics and the Human Genome Project (L4) Pharmacogenomics (L5) RNA genes and RNAi (L6) Mutations and aberrations (L7) DNA analysis (L8) Mitochondrial inheritance and human development (L9) Gene therapy. Genetically modified organisms (GMO) (L10) Epigenetics			
	Seminars	(S1) Chromosomes. DNA analysis techniques.			

		(S2) Inheritance patterns (Mendelian and Non-Mendelian) and genetic counselling (S3) Applications to public health - screening and identification of populations at risk (S4) Carcinogenesis and common genetic factors (S5) Genes and molecular mechanisms underlying human disease (S6) Genetic background of congenital anomalies (S7) Gene ethics									
	Exercises	(E1) Introduction to Cytogenetics laboratory (E2) Primer design for genetic testing (E3) Bioinformatics (database search and OMIM) (E4) Cloning, transgenic animals, gene therapy (E5) Odds, probabilities, Bayes' theorem.									
Language	English										
E-learning	Classes are conducted in person. If necessary, lectures, seminars and part of the practicals can be combined (in person and online) or completely online via e-learning platforms (Google Meet) up to a maximum 20%.										
Teaching methods	Teaching, interactive and active-experiential.										
Types of assessment (indicate - Bold)											
Type of pre-examination obligation						Type of exam					
midterm	seminar paper	essay/report	practical/project task	other		written exam	oral exam	practical			
Allocation of ECTS credits and share in the grade											
Student obligations		Learning outcome code	Hours of workload			Share in ECTS		Share in grade			
Class attendance			45			1.5					
Project task		IU-MFMSE302-4 IU-MFMSE302-5	15			0.5		20%			
Pre-exam/Written exam		IU-MFMSE302-1 IU-MFMSE302-2 IU-MFMSE302-3	30			1.0		80%			
In total			90			3		100%			
Method of calculating the final grade											
<p>Evaluation criteria for the written exam: Final written exam 27-33 = (2); 33-39 = (3); 40-45 = (4); 46-50 = (5);</p> <p>The student can receive a total of 20 points for the project assignment (10 points for the written part and 10 points for the presentation), and the range of grades is defined as follows: 1-10 – (1) 11-13 – (2) 14-16- (3) 17-18 – (4) 19-20 – (5)</p> <p>The final grade is obtained as a weighting of the grades from the project assignment (20% of the grade) and the written exam (80% of the grade).</p> <p>The grade is calculated as follows: grade on the written test x 0.8 + grade from the project assignment x 0.2. A grade below 0.5 is a grade below and a grade above 0.5 is a grade above.</p>											
Literature (indicate)	Title (title, author, year)	Edition		Language				Type of literature			
		own	other	croatian	english	other	multilingual	book	article	script	other

Compulsory	Emery's Elements of Medical Genetics – Peter D Turnpenny, Sian Ellard, 14th edition, Elsevier, 2012		x		x			x			
Additional	Essential Medical genetics – Tobias E.S, Connor M, Ferguson-Smith M, 6th edition, Wiley-Blackwell, 2011		x		x			x			
Additional course information											