



**SYLLABI OF THE INTEGRATED UNIVERSITY
STUDY PROGRAM MEDICAL STUDIES IN
ENGLISH FOR THE ACADEMIC YEAR 2025./2026.**

Mostar, September 2025

Study programme	MEDICAL STUDIES IN ENGLISH				
Cycle	INTEGRATED	Type	UNIVERSITY		
Study track	-	Module	-		
Year of study	3	Semester	V		
Course title	PATHOLOGY	Course code	MFMSE501		
ECTS	16	Status	OBLIGATORY		
Teaching hours		Lectures	Exercises	Seminars	Practice
		70	70	70	0
Teachers	Prof. Joško Petričević, MD, PhD	42		42	
	Prof. Valdi Pešutić-Pisac, MD, PhD	18	20	18	
	Asst. Prof. Dragana Karan-Križanac, MD, PhD	10		10	
	Asst. Sara Marić, MD				
	Asst. Marija Čolak, MD		26		
	Asst. Petra Tomić, MD				
	Asst. Ivica Raguž, MD		24		
Course objectives	The aim of the Pathology course is to: - provide the students with knowledge about the mechanisms of cells, tissues and organs injury and familiarize them with the morphological changes that underlie diseases; - train students to recognize morphological changes in cells, tissues and organs by acquiring theoretical knowledge in lectures and seminars; - gain knowledge about the origin and outcome of the disease, based on own experiences at clinical autopsies, analysis of microscopic images and analysis of macroscopic preparations				
Course learning outcomes	Learning outcome (LO) Student:		Course learning outcome code	LO code at the study program level	
	Describes groups of pathological processes, their etiopathogenetic mechanisms and connects knowledge about the pathological structure and function of organs, organ systems and whole body.		IU-MFMSE501-1	IU-MSE2 IU-MSE4	
	Describes and connects knowledge about the most important pathological changes in organ systems with features of pathological processes, morphological characteristics specific to individual organ systems, and applies this knowledge in clinical examples.		IU-MFMSE501-2	IU-MSE3 IU-MSE4	
	Describes disorders of the structure and function of organs and organ systems (morphological changes).		IU-MFMSE501-3	IU-MSE4	
	Describes certain methods of morphological diagnosis and their clinical use, as well as signs of death and features of certain stages of autopsy.		IU-MFMSE501-4	IU-MSE4 IU-MSE5	
	Recognizes and describes typical macroscopic changes in individual tissues and organs (pathological processes from general and organic pathology) and, based on their characteristics, thinks through differential diagnosis and creates a diagnosis.		IU-MFMSE501-5	IU-MSE6	
	Shows and describes the technique of microscopy of pathohistological preparations, critically analyzes histochemical and immunohistochemical methods and uses them in the diagnosis of diseases.		IU-MFMSE501-6	IU-MSE8	

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 And Seminars	(L1, S1) Overview of cellular responses to stress and noxious stimuli, Causes of cell injury, Sequence of events in injury and cell death. (L2, S2) Mechanisms of cell injury and cell deaths, Cellular adaptations to stress, Intracellular accumulations, Pathologic calcification, Cellular aging. (L3, S3) Overview of inflammation, definitions and general features, Causes of inflammation, Recognitions of microbes and damaged cells, Acute inflammation, Mediators of inflammation. (L4, S4) Morphologic patterns of acute inflammation, Outcomes of acute inflammation, Chronic inflammation, Systemic effects of inflammation, Tissue repair. (L5, S5) Hyperemia and congestion; Edema; Hemorrhage, Hemostasis and thrombosis: Thrombosis, Embolism, Infarction, Shock. (L6, S6) The normal immune response, Cells and tissues of the immune system, Overview of lymphocyte activation and adaptive immune responses, Hypersensitivity: Immunologically mediated tissue injury, Rejection of transplants. (L7, S7) Autoimmune diseases, Immunodeficiency syndromes, Acquired immunodeficiency syndrome, Amyloidosis. (L8, S8) Nomenclature, Characteristics of benign and malignant neoplasms, Epidemiology, Cancer genes, Genetic lesions in cancer, Carcinogenesis: a multistep process. (L9, S9) Hallmarks of cancer: Self-sufficiency in growth signals; Insensitivity to growth inhibitor signals: tumor suppressor genes, Sustained angiogenesis; Clinical aspects of neoplasia. (L10, S10) Marfan syndrome, Ehlers-Danlos syndrome; Familial Hypercholesterolemia, Cystic fibrosis; Phenylketonuria; Complex multigenic disorders; Trisomy 21, Klinefelter syndrome, Turner syndrome; Triplet repeat mutations: Fragile x syndrome; Congenital anomalies; Perinatal infections, prematurity and fetal growth restrictions, RDS, Necrotizing enterocolitis, SIDS, Fetal hydrops, Tumors and tumor like lesions of infancy and childhood. (L11, S11) Structure and function of blood vessels, Congenital anomalies, Hypertensive vascular disease, Vascular wall response to injury, Arteriosclerosis, Atherosclerosis, Aneurysms and dissections, Vasculitis, Disorders of blood vessels hyper reactivity, Veins and lymphatics, Tumors. (L12, S12) Heart failure, Congenital heart diseases, Ischemic heart diseases, Arrhythmias. (L13, S13) Hypertensive heart disease, Valvular heart disease, Cardiomyopathies and myocarditis, Pericardial disease, Cardiac tumors. (L14, S14) Atelectasis (Collapse); ARDS; Obstructive vs Restrictive pulmonary diseases; Obstructive lung (airway) diseases; Chronic interstitial (Restrictive infiltrative) lung diseases; Pulmonary diseases of vascular origin. (L15, S15) Pulmonary infections; Lung tumors; Pleural lesions; Lesions of the upper respiratory tract. (L16, S16) Red cell disorder; Bleeding disorders; Complication of transfusion; Disorders of the spleen and thymus. (L17, S17) White cell disorders. (L18, S18) Acute Inflammatory dermatoses; Chronic Inflammatory dermatoses; Infectious dermatoses; Blistering (Bullous) disorders; Tumors of the skin. (L19, S19) Oral cavity, Esophagus, Stomach. (L20, S20) Small and large intestine, Appendix. (L21, S21) General features of liver diseases, Infectious disorders, Autoimmune hepatitis, Drug and toxin induced liver injury, Alcoholic and non-alcoholic fatty liver disease, Inherited metabolic liver diseases.

		(L22, S22) Cholestasis syndromes; Circulatory disorders; Nodules and tumors; Gallstone diseases; Cholecystitis; Carcinoma of the gallbladder. (L23, S23) Congenital anomalies; Pancreatitis; Pancreatic neoplasms. (L24, S24) Clinical manifestations of renal diseases; Glomerular diseases. (L25, S25) Diseases affecting tubules and interstitium; Diseases involving blood vessels; Chronic kidney diseases; Cystic diseases of the kidney; Urinary outflow obstruction; Congenital and developmental anomalies; Neoplasms. (L26, S26) Basic structure and function of the bone; Congenital disorders of Bone; Metabolic disorders of Bone; Paget disease of bone; Fractures; Osteonecrosis; Osteomyelitis; Bone tumors and tumor like lesions. (L27, S27) Joints; Soft tissue tumors, Disorders of neuromuscular junction: Myasthenia gravis, Lambert-Eaton syndrome page; Disorders of skeletal muscle: Dystrophies: Duchenne and Becker Muscular Dystrophy page; Peripheral nerve sheet tumors: Schwannomas and Neurofibromatosis Type 2, Neurofibromatosis Type I, Malignant peripheral nerve sheet tumors. (L28, S28) Clinical presentations of breast disease; Inflammatory processes; Stromal neoplasms; Benign epithelial lesions; Carcinoma. (L29, S29) Penis; Scrotum, testis and epididymis; Prostate; Ureter, Bladder and Urethra; Sexually transmitted diseases. (L30, S30) Vulva; Vagina; Cervix; Uterus. (L31, S31) Fallopian tubes; Ovaries; Diseases of pregnancy. (L32, S32) Thyroid; Parathyroid glands. (L33, S33) Pituitary; Endocrine pancreas; Adrenal cortex; Adrenal medulla; Multiple Endocrine Neoplasia Syndromes. (L34, S34) Edema; Herniation and hydrocephalus; Cerebrovascular diseases; Central nervous system trauma; Congenital malformation and perinatal brain injury; Infections of the Nervous system. (L35, S35) Genetic metabolic diseases; Acquired metabolic and toxic disturbances; Neurodegenerative diseases; Tumors.
	Exercises	(E1) Cell Injury, Cell Death, and Adaptations I (E2) Cell Injury, Cell Death, and Adaptations II (E3) Inflammation and Repair I (E4) Inflammation and Repair II (E5) Hemodynamic Disorders, Thromboembolism and Shock (E6) Diseases of the Immune System I (E7) Diseases of the Immune System II (E8) Neoplasia I (E9) Neoplasia II (E10) Genetic and Pediatric Diseases (E11) Blood Vessels (E12) Heart I (E13) Heart II (E14) Lung I (E15) Lung II (E16) The Hematopoietic and Lymphoid System I (E17) The Hematopoietic and Lymphoid System II (E18) The Skin (E19) Oral Cavities and GI Tract I (E20) Oral Cavities and GI Tract II (E21) The Liver and Biliary System I (E22) The Liver and Biliary System II (E23) The Pancreas (E24) Kidneys and its Collecting System I (E25) Kidneys and its Collecting System II (E26) Bones and Joints I (E27) Bones and Joints II (E28) The Breast (E29) The Male Genital System and Lower Urinary Tract (E30) The Female Reproductive System I

		(E31) The Female Reproductive System II (E32) The Endocrine System I (E33) The Endocrine System II (E34) The Nervous System I (E35) The Nervous System II										
Language	English											
E-learning	Classes are conducted live. If necessary, lectures, seminars and part of the exercises can be combined (live and online) or completely online via e-learning platforms (Google Meet) up to a maximum of 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				
Attending classes				210		7						
Pre-exam/partial written exam (P1)		IU- MFMSE501-1 IU- MFMSE501-2 IU- MFMSE501-5		135		4.5		50%				
Pre-exam/partial written exam (P2)		IU- MFMSE501-3 IU- MFMSE501-4 IU- MFMSE501-6		135		4.5		50%				
In total				480		16		100%				
Method of calculating the final grade												
The final grade is obtained as the arithmetic mean of the grades from the two partial exams (sum of grades from P1 and P2 divided by 2). A detailed description is given in the additional information about the subject.												
Literature (indicate)	Title (title, author, year)	Edition		Language				Type of literature				
		own	other	croatian	english	other	multilingual	book	article	script	other	
Compulsory	Kumar V, Abbas A, Aster J: Robbins Basic Pathology, 10th edition, Elsevier, 2017.		X		X			X				
	The Internet Pathology Laboratory for Medical Education courtesy of Prof. Edward C. Klatt, MD, Mercer University School of Medicine available on https://webpath.med.utah.edu/ .		X		X						X	
Additional	Power point presentations used during lecturers and seminars.	X	X		X						X	
Additional course information												
Teaching in Pathology for each unit begins with lectures (L), followed by seminars (S) and exercises (E), according to the topic headings determined for that day. At the seminars, students are given problem tasks (case presentation) which they solve in small groups, at the end of the seminar, knowledge is checked through a quiz-test, and then the correct answers												

are discussed with explanations of the problem tasks. During the exercises, students examine macroscopic and microscopic images of diseased organs with the help of a computer program, and with a macroscopic examination of diseased organs at the Department of Pathology of UCC Mostar, they independently examine diseased organs. Students also attend the performance of autopsies. The lectures and seminars cover the same teaching units. Students should thoroughly study the prescribed material before the seminar. Seminars or practices from which students were absent must be made up, as they are a condition for sitting the partial and final exams.

The exam is taken in two parts: the first partial test P1 includes general pathology, pathology of blood vessels, heart, respiratory system, blood and blood-forming organs and skin, and the second partial test P2 the remaining part of the pathology of organs and organ systems. Each partial test has 100 questions in the theoretical part. To pass a particular test, it is necessary to achieve 60 correct answers (60% of the solved test).

Test scores and grades: 60-70 sufficient, 71-80 good, 81-90 very good and 91-100 excellent. At the end of each part of the tour, a written exam P1 and P2 is organized. Students are required to pass both partial tests to be able to get final grade. The passed written exam is valid only during the current academic year.

The final grade is calculated as the arithmetic mean of the grades obtained on the two partial exams that is: $(P1+P2)/2$.

Study programme	MEDICAL STUDIES IN ENGLISH				
Cycle	INTEGRATED	Type	UNIVERSITY		
Study track	-	Module	-		
Year of study	3	Semester	V		
Course title	PATHOPHYSIOLOGY	Course code	MFMSE502		
ECTS	11	Status	OBLIGATORY		
Teaching hours		Lectures	Exercises	Seminars	Practice
		45	30	60	0
Teachers	Full professor Zlatko Trobonjača, MD, PhD	32	3	18	
	Full professor Hrvoje Jakovac, MD, PhD	13	6	9	
	Assistant professor Borko Rajič, MD, PhD	0	3	12	
	Senior assistant Marija Šandrak, MD, PhD	0	3	6	
	Assistant professor Benjamin Palić MD, PhD	0	6	9	
	Ivana Bevanda, MD	0	6	3	
	Ivan Zeljko, MD	0	3	3	
Course objectives	The main goal of this course is to enable students to apply previously acquired knowledge from all subjects of the first two years of the study especially from the courses of Medical Physiology and Medical Chemistry and Biochemistry I and II, in order to become familiar with the pathological function of the certain organic system, as well as etiopathogenetic mechanisms that lead to functional disorders and development of diseases. The knowledge acquired in this course forms the basis for learning and understanding the diagnostic and therapeutic procedures that students learn in many clinical courses, especially in Internal Medicine.				
Course learning outcomes	Learning outcome (LO) Student:		Course learning outcome code	LO code at the study program level	
	Describes the mechanisms of action of biological, physical and chemical etiological factors in the emergence and development of various etiological conditions in patients (genetic, developmental, autoimmune, degenerative, toxic, metabolic, microbiological, neoplastic, traumatic).		IU-MFMSE502-1	IU-MSE5	
	Explains the general patterns of etiopathogenetic events and pathophysiological reactions of the patient at the organismic level using etiopathogenetic clusters.		IU-MFMSE502-2	IU-MSE4	
	Explains disorders of the structure and function of the heart, circulatory, respiratory and urogenital systems, and evaluates and argues the connection between external factors and patient reactivity in the pathogenesis, course and degree of disorders of these systems, and the outcome of the disease.		IU-MFMSE502-3	IU-MSE4	
	Explains disorders of the structure and function of the metabolism, digestive and endocrine systems, and evaluates and argues the connection between the effects of external factors and patient reactivity in the pathogenesis, course and degree of disorders of these systems, and the outcome of the disease.		IU-MFMSE502-4	IU-MSE4	
	Describes the chronobiological characteristics of the pathophysiological response to the influence of etiological factors.		IU-MFMSE502-5	IU-MSE4	
	Describes and connects knowledge about molecular, biochemical and cellular mechanisms that are important in maintaining and disrupting body homeostasis.		IU-MFMSE502-6	IU-MSE3	

	Combines and applies knowledge about the disease's clinical, laboratory and imaging features, and based on etiopathogenesis, interprets and concludes in terms of differential diagnosis.		IU-MFMSE502-7	IU-MSE8
	Identifies the importance of scientific methods in the discovery and explanation of etiopathogenetic mechanisms in the development of diseases and their usage in translational and clinical research.		IU-MFMSE502-8	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 pathophysiology. General causes and development of pathophysiological processes. Homeostatic maintenance and disorders. Health and disease. An integrative approach to the disease. (L2) Principles of the pathogenetic mechanisms. (L3) Inflammation. (L4) Immunopathophysiology. Immunopathogenetic role of the HLA system. Tissue transplant reactions. (L5) Immunodeficiencies. Autoimmunity. (L6) Malignant transformation and growth. Disorders of energy metabolism. (L7) Red blood cell disorders. (L8) White blood cell disorders. (L9) Endogenous bioactive compounds in disease processes. (L10) Disorders of myocardial function. Disorders of the heart valve function. Congenital heart defects. Cardiac filling disorders. Cardiac output disorders. (L11) The coronary circulation and ischemic heart disease. (L12) Disorders of arterial pressure. Hypertension. Local tissue perfusion disorders. (L13) Circulatory Shock. (L14) Overview of renal function disorders. (L15) Overview of respiratory system disorders. (L16) Chronobiological pathophysiology. (L17) Pathophysiology of the gastrointestinal system. Disorders of the exocrine functions of the pancreas - acute and chronic pancreatitis. (L18) Disorders of pancreatic endocrine function. Diabetes mellitus. (L19) Integral organismic reactions to noxious stimuli. (L20) Causes of endocrinopathies. Disorders of pituitary function. Thyroid gland disorders. (L21) Functional disorders of the cortex and medulla of the adrenal gland. (L22) Disorders of gonadal function. (L23) Disorders of parathyroid glands function. Disorders of calcium, phosphate and magnesium metabolism.		
	Seminars	(S1) Pathophysiology of DNA: DNA damages, chromosomal aberrations, genomic instability. Gene expression disorders. Hereditary metabolic diseases. (S2) Functional disorders of subcellular structures. (S3) Function and composition disorders of blood and hematopoietic organs. (S4) Immune hypersensitivities and transfusion reactions. (S5) Disorders of impulse conduction. Heart rhythm disorders. Heart adaptation to the functional load. (S6) Cardiac Failure. (S7) Disorders of arterial pressure and blood flow. (S8) Circulatory Shock. (S9) Disorders of osmolality and hydration of the body. Disorders of extracellular fluid distribution. (S10) Disorders of urine quantity and composition.		

		(S11) Pathophysiology of the respiratory system. (S12) Disorders of electrolytic homeostasis. (S13) Acid-base balance disorders. (S14) Disorders of metabolism of proteins and carbohydrates. Disorders of dietary balances. (S15) Lipid metabolism disorders. Atherosclerosis. (S16) Pathophysiology of the liver. (S17) Disorders of energy metabolism. Disorders of thermoregulation. (S18) Disorders of specific metabolic substances. (S19) Structural and functional disorders of connective and bone tissue. (S20) Disorders of neurovegetative regulation. Disorders of consciousness.									
	Exercises/Practicals	(P1) Leukocytes and the monocyte-macrophage system disorders. Biological etiological factors. (P2) Physical and chemical etiological factors. (P3) Disorders of the composition and structure of plasma protein. Function disorders of the spleen. Hematological laboratory tests. (P4) Hemostasis and blood clotting disorders. (P5) Electrocardiographic interpretation of disorders of the heart muscle and coronary circulation - Vectorial analysis (P6) Cardiac arrhythmias and their electrocardiographic Interpretation. Pathological electrocardiogram. (P7) Disorders of the digestive system and metabolism. (P8) Pathophysiology of the liver and exocrine pancreas. (P9) Disorders of conception, pregnancy, fetal growth and development. Disorders of sexual function. (P10) Endocrinopathies.									
Language	English										
E-learning	Classes are held live. If necessary, lectures, seminars and exercises can be combined (live and online) or completely online via e-learning platforms (Google Meet) up to max 20%.										
Teaching methods	Teaching, presentations, interactive and active.										
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				135		4,5					
Midterm I		IU-MFMSE502-1		30		1		10%			
Midterm II		IU-MFMSE502-2		30		1		10%			
Knowledge and active participation in classes				30		1		10%			
Pre-exam/written exam		IU-MFMSE502-1 IU-MFMSE502-2 IU-MFMSE502-3 IU-MFMSE502-4 IU-MFMSE502-5		60		2		40%			
Final oral exam		IU-MFMSE502-6 IU-MFMSE502-7 IU-MFMSE502-8		45		1,5		30%			
In total				330		11		100%			
Method of calculating the final grade											
1) The final grade is obtained by adding up the points gained during classes (in partial exams and by knowledge and dedication during classes) to points gained on the final written and oral exam. 2) A detailed description is provided in additional information about the case.											
Literature (indicate)	Title (title, author, year)	Edition		Language				Type of literature			
		own	other	croatian	english	other	multilingual	book	article	script	other

Compulsory	Gamulin S, Marušić M, Kovač Z. et al. Pathophysiology (7th edition), Medicinska naklada Zagreb, 2014.		x	x	x			x			
	Guyton A.C., Hall J.E. Textbook of Medical Physiology (14th edition), Elsevier, 2020.	x		x	x			x			
Additional	Teaching material	x	x	x	x						x
	Kovač Z, Gamulin S, et al. Pathophysiology. Study guide algorithms – problem solver, Medicinska naklada, Zagreb, 2014.		x	x	x			x			

Additional course information

The course is performed in the winter semester at the third year of study, in the form of lectures (45 teaching hours), seminars (60 teaching hours), and exercises (30 teaching hours). Lectures last 2, and seminars and exercises 3 teaching hours.

Lectures are a form of classes that provide an introduction and an overview of a thematic unit that is taught in more detail on seminars and exercises.

Seminars and exercises/practicals are a form of classes where students actively review and critically discuss physiological and pathophysiological mechanisms of certain morphological and functional units, which are then explained at the molecular, microenvironmental, organic, systemic and whole-organism levels.

Active participation of students in the curriculum program is further achieved by studying natural integrators of etiopathogenetic events, the so-called etiopathogenetic clusters, performing exercises in the laboratory and on computer programs that simulate pathological conditions and provide clinical correlates of certain diseases

Students are obliged to prepare material that is discussed in lectures, seminars and exercises. In seminars and exercises, students actively discuss physiological and pathophysiological mechanisms with the teacher. Through presentations of clinical cases during the exercises, students have the opportunity to connect pathophysiological conditions with their clinical manifestations.

The teacher evaluates the student's participation in seminars and exercises (demonstrated knowledge, understanding, ability to pose problems, reasoning, etc.). "Earned" points are added to the points obtained in the final exam.

Class attendance and student participation in all forms of classes are compulsory in accordance with the Law and the Statute of the Faculty of Medicine in Mostar. Accordingly, student attendance at lectures, seminars, and exercises will be regularly checked. Only justifiable absences due to, for example, the illness will be acceptable within the limits allowed and according to the Ordinance on Studies.

Student work will be evaluated during classes and at the final exam. A maximum of **(I) 30 grade points** can be obtained during classes and up to **(II) 70 grade points** on the final exam, which totals **100 grade points**.

I. The following components are evaluated during classes (up to 30 grade points):

1) acquired knowledge (up to 20 grade points)

2) active participation in classes (up to 10 grade points)

1) acquired knowledge (up to 20 grade points)

During classes, the acquired knowledge will be evaluated by means of **two midterm tests comprising 50 questions**.

A student may obtain up to **10 grade points** on each test as follows:

Correct answers	Grade points
48-50	10
45-47	9

42-44	8
39-41	7
36-38	6
33-35	5
30-32	4
27-29	3
24-26	2
21-23	1

2) active participation in classes (up to 10 grade points)

Based on oral discussions, activities and knowledge students are graded at all seminars and exercises. Students will be graded in the range of 1 to 5. The score scale is determined according to the absolute distribution of mean values of grades, which is achieved by summing all grades from seminars and exercises (a total of 30 teaching units) and dividing by the number 30 (or less if the student was justifiably absent or not graded). Students can obtain grade points during classes only if they are **graded** at least on 10 seminars and 5 exercises. The obtained average grade is converted into grade points as shown in the table:

4,26-5,0	10 points
3,76-4,25	8 points
3,26-3,75	6 points
2,76-3,25	4 points
2,00-2,75	2 points

II. Final exam (up to 70 grade points):

The final exam consists of an **oral and a written part**. This exam tests key, specific competencies that have been determined for each unit separately. A student must solve **at least 50% of the test** in order to be able to access the oral part of the final exam.

Who can NOT access the final exam:

Students who missed 20% or more teaching hours. Such a student cannot take the final exam, i.e. he/she must re-enroll in the course in the following academic years.

Students can obtain a maximum of 70 grade points at the written part of the final exam (100 questions) which corresponds to the total number of grade points as shown in the table:

Correct answers	Grade points		Correct answers	Grade points
97-100	70		70-71	58
94-96	69		68-69	57
91-93	68		66-67	56
88-90	67		64-65	54
86-87	66		62-63	52
84-85	65		60-61	50
82-83	64		58-59	48
80-81	63		56-57	46
78-79	62		54-55	44
76-77	61		52-53	42
74-75	60		50-51	40
72-73	59		<50	0

III. The final grade (a maximum of 100 grade points)

The final grade represents the sum of all grade points obtained during classes and on the final exam. It is based on the absolute distribution according to the following scale:

A (80-100 grade points)	excellent (5)
B (70-79,99 grade points)	very good (4)
C (60-69,99 grade points)	good (3)
D (40-59,99 grade points)	sufficient (2)
F (student who has solved less than 50% of the test on the final exam)	insufficient (1)

IV. The final grade obtained on the written test has to be confirmed at the oral exam

Study programme	MEDICAL STUDIES IN ENGLISH				
Cycle	INTEGRATED	Type	UNIVERSITY		
Study track	-	Module	-		
Year of study	3	Semester	VI		
Course title	MEDICAL MICROBIOLOGY AND PARASITOLOGY	Course code	MFMSE601		
ECTS	8	Status	OBLIGATORY		
Teaching hours		Lectures	Exercises	Seminars	Practice
		21	44	30	0
Teachers	Professor Marija Tonkić, MD, PhD	6	0	6	
	Professor Ivana Goić Barišić, MD, PhD	3	0	4	
	Assist. prof. Anita Novak, MD, PhD	3	0	2	
	Assist. prof. Sanja Jakovac, MD, PhD	9	0	10	
	Assistant Maja Kljakić, MD	0	19	8	
	Assistant Doris Martinović Rizikalo, MD	0	18	0	
	Assistant Andrea Mišetić, MD	0	7	0	
Course objectives	- to learn the basic biological characteristics of microorganisms that cause infections in humans, their pathogenic properties, prevalence and resistance to environmental conditions, ways of their transmission, sensitivity to antimicrobial drugs and the basics of human defense against infection; - to learn the types of vaccines; - to learn the basic groups of antimicrobial drugs, their spectrum and mechanisms of action, and mechanisms of resistance of microorganisms to antimicrobial drugs; - to sample the swab of the nose and throat independently, to determine the type of the most common microorganisms according to the microscopic slide or other features, to read and interpret antibiograms and to determine the mode of transmission as well as the way of defense against a specific microorganism.				
Course learning outcomes	Learning outcome (LO) Student:			Course learning outcome code	LO code at the study program level
	Lists and describes the most important biological features of normal human flora and pathogenic microorganisms (bacteria, viruses, fungi and parasites) and explains the effects of the most important virulence factors of microorganisms that cause infections in humans.			IU-MFMSE601-1	IU-MSE1
	Describes the ways of transmission of microorganisms, pathogenesis and methods of prevention of infectious diseases.			IU-MFMSE601-2	IU-MSE5
	Describes the basic mechanisms of human immune defense against infection and types of vaccines.			IU-MFMSE601-3	IU-MSE10
	Names the basic groups of antimicrobial drugs, explains the mechanisms of their action and the mechanisms of resistance of microorganisms to these agents.			IU-MFMSE601-4	IU-MSE11
	States, describes and justifies the applicability of different methods of microbiological diagnostics and testing of the sensitivity of the bacteria to antimicrobial agents and adequately and critically selects and performs them.			IU-MFMSE601-5	IU-MSE15

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 microbiology. Structure, physiology and genetics of the bacterial cell. Bacterial antigens. Pathogenesis of bacterial diseases. Vaccines. (L2) Antibacterial chemotherapeutic agents. Bacterial resistance to antimicrobial drugs. (L3) Gram-negative spiral bacteria - family <i>Spirochaetaceae</i>. Bacteria without a cell wall - family <i>Mycoplasmataceae</i>. Obligate intracellular bacteria: <i>Rickettsiaceae</i>, <i>Chlamydiaceae</i>. (L4) Acid-resistant bacteria - genus <i>Mycobacterium</i>. (L5) Introduction to virology. Chemical composition and structure of viruses. Viral antigens and hemagglutination. Virus replication. (L6) Pathogenesis of viral diseases. Interference and interferon. Chemoprophylaxis and therapy of viral diseases. Viral vaccines. Prions. (L7) <i>Flaviviridae</i>, <i>Togaviridae</i>, <i>Bunyaviridae</i>, <i>Filoviridae</i>. (L8) Introduction to mycology. Shape, structure and reproduction of fungi. Fungal diseases – pathogenesis. Antifungal drugs. (L9) Introduction to medical parasitology. Blood and tissue protists - genera: <i>Toxoplasma</i>, <i>Plasmodium</i>, <i>Leishmania</i>.
	Seminars	(S1) Genera <i>Streptococcus</i>, <i>Staphylococcus</i>, <i>Enterococcus</i>. (S2) Genera <i>Neisseria</i>, <i>Moraxella</i>, <i>Haemophilus</i>, <i>Bordetella</i>, <i>Brucella</i>. (S3) Characteristics of bacteria from the <i>Enterobacteriaceae</i> family. (S4) Gram-negative non-fermenting bacteria – genera <i>Pseudomonas</i>, <i>Acinetobacter</i>. (S5) Gram-negative, curved, rod-shaped bacteria - genera <i>Vibrio</i>, <i>Helicobacter</i>, <i>Campylobacter</i>. Anaerobic bacteria - genera <i>Clostridium</i>, <i>Actinomyces</i>. (S6) Genera – <i>Bacillus</i>, <i>Corynebacterium</i>, <i>Listeria</i>, <i>Legionella</i>. (S7) Multiresistant bacteria. (S8) DNA viruses: <i>Parvoviridae</i>, <i>Papovaviridae</i>, <i>Adenoviridae</i>, <i>Poxviridae</i>. (S9) <i>Herpesviridae</i>. Hepatitis B, C, D viruses. (S10) RNA viruses: <i>Picornaviridae</i> (<i>Enterovirus</i>, <i>Hepatovirus</i>), <i>Caliciviridae</i>, <i>Reoviridae</i>. (S11) <i>Orthomyxoviridae</i>, <i>Paramyxoviridae</i>, <i>Coronaviridae</i>. (S12) <i>Rhabdoviridae</i>, <i>Retroviridae</i>. (S13) Medically important yeasts and molds. (S14) Protists of the digestive and urogenital system - genera: <i>Giardia</i>, <i>Entamoeba</i>, <i>Cryptosporidium</i>, <i>Trichomonas</i>. (S15) Round and flat worms - <i>Platyhelminthes</i> (<i>Taenia</i>, <i>Echinococcus</i>), <i>Nematoda</i> (<i>Trichinella</i>, <i>Trichuris</i>, <i>Enterobius</i>, <i>Ascaris</i>).
	Exercises	(E1) Introduction to microbiological laboratory and the basics of safe laboratory work. Laboratory-acquired infections. Microscopic examination of principal bacterial shapes. Differential staining in bacteriology. Cultivation of bacteria. Media types. (E2) Performance, reading and interpretation of antibiogram. Principles of isolation and identification of pyogenic cocci. (E3) Identification of bacteria from the genera <i>Neisseria</i> and <i>Haemophilus</i>. (E4) Macroscopic and biochemical identification of enterobacteria. (E5) <i>Pseudomonas</i>, <i>Campylobacter</i>, <i>Vibrio</i>, <i>Helicobacter</i> – microbiological diagnostics. (E6) Sampling, sending and processing samples for the isolation of mycobacteria. (E7) Hospital infections. Multiresistant bacteria. (E8) Methods of direct diagnosis of viral diseases. (E9) Methods of indirect diagnosis of viral diseases. (E10) Yeasts and molds - macro and micromorphology. (E11) Diagnostics of toxoplasmosis, leishmaniasis and malaria.

		(E12) Diagnostics of intestinal parasitosis. (E13) Final practical exercise - practical exam.									
Language	English										
E-learning	Classes are conducted in person (live). If necessary, lectures, seminars and part of the exercises can be combined (live and online) or completely online via e-learning platforms (Google Meet) up to a maximum of 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			
Attending classes				95		3.2					
Pre-exam/Written exam (B + V+ MaP)		IU- MFMSE601-1 IU- MFMSE601-2 IU- MFMSE601-3 IU- MFMSE601-4		75		2.5		50 %			
Practical exam		IU- MFMSE601-5		25		0.8		20 %			
Oral (final) exam		IU- MFMSE601-1 IU- MFMSE601-2 IU- MFMSE601-3 IU- MFMSE601-4		45		1.5		30 %			
In total				240		8		100 %			
Method of calculating the final grade											
The final grade is the result of the ratio of grades achieved in written exams (50% of the grade), practical (20%) and oral part of the exam (30% of the final grade).											
Literature (indicate)	Title (title, author, year)	Edition		Language				Type of literature			
		own	other	croatian	english	other	multilingual	book	article	script	other
Compulsory	Brooks GF, Carroll KC, Butel JS, Morse SA, Mietzner TA, eds. Jawetz, Melnick and Adelbergs Medical Microbiology. 26th ed. New York: McGraw-Hill; 2013.		x		x			x			
	Jakovac S, et al. Medical microbiology – laboratory manual for medical students. University of Mostar School of Medicine, 2022.	x			x					x	
	PowerPoint Presentations	x			x						x
Additional	http://phil.cdc.gov/phil/home.asp http://www.microbelibrary.org/				x						x
Additional course information											
All forms of teaching are obligatory. Students are allowed to miss up to 20% of the total course hours justifiable, provided that all absences are compensated through a colloquium. Students must be prepared for seminars and practical work.											

according to the topics in the schedule. Active participants will be given extra pluses that will be added to the points achieved on written part of the exam (3 pluses = 1 point). Unprepared seminars and exercises will be punished with a minus and must be compensated through a colloquium, because these are condition for partial written exams and final exam. Minuses and all absences must be compensated through a colloquium, before gaining entry to a partial test-exam, and the entire exam.

To work in the practice room, students need a white coat, manual, a pen or ballpoint pen, and wooden crayons. No food, drink, cigarettes or chewing gum should be brought into the practice room. After the practical work, students **MUST** wash their hands thoroughly according to the enclosed instructions and after that must not touch or take out the working materials.

EXAM

The exam in the subject Medical Microbiology and Parasitology is written, practical and oral. During the classes, three partial test exams will be organized. Only students who attend the 6th semester of this academic year, and who have not missed classes or have justified their absences and made up for them with a colloquium, have the right to access the partial exam.

PARTIAL WRITTEN EXAMS

The first partial test contains questions from bacteriology (60 questions - 60 minutes). The second partial test contains questions from virology (40 questions - 40 minutes). The third partial test contains questions from mycology and parasitology (30 questions - 30 minutes).

The percentage of correct answers required for a positive grade for each test exam is 55% (bacteriology - 33 points; virology - 22 points parasitology and mycology - 16 points). Passed partial exams are recognized as passed written part of the exam. Results achieved in partial exams and points collected by active participation in classes are valid only during the academic year in which they are passed.

PRACTICAL EXAM

The practical part of the exam consists of 10 tasks, as follows:

1. description of 3 microscopic slides, one of which is parasitological
2. readings of grown cultures on the 3 media (bacteriological and/or mycological)
3. recognition and description of the phenomenon that can be recognized on 3 nutrient media
4. reading of antibiogram

ORAL EXAM

The exam card for the oral part of the exam contains five questions according to the following schedule:

1. one question from general microbiology (general bacteriology, mycology, parasitology or virology)
2. one question from special bacteriology
3. one question from special parasitology
4. one question from special virology
5. one question from special mycology

The final grade is the result of the ratio of grades achieved in written exams (50% of the grade), practical (20%) and oral part of the exam (30% of the final grade).

Study programme	MEDICAL STUDIES IN ENGLISH				
Cycle	INTEGRATED	Type	UNIVERSITY		
Track	-	Module	-		
Year of study	3	Semester	VI		
Name of the subject	PHARMACOLOGY	Subject code	MFMSE602		
ECTS	11	Status	OBLIGATORY		
Number of teaching hours		Lectures	Exercises	Seminars	Practice
		50	35	50	0
Teachers	assist. prof. Ivan Merdžo, MD, PhD	18			
	prof. Mladen Boban, MD, PhD	20			
	prof. Ivana Mudnić, MD, PhD	2			
	assist. prof. Antonio Markotić, MD, PhD	8			
	assist. prof. Diana Gujinović, MPharm	2			
	assistant Ivana Matić, MPharm		0	12	
	assistant Dalibor Raspudić, MD		14	14	
	assistant Martina Vukoja, MPharm		17	12	
	assistant Daria Ostojić, MD		4	12	
Goals of the subject	The goals of the Pharmacology course are: -Achieve students' understanding of general pharmacology, which includes: knowledge of the drugs origin, the way the drugs are administered, the metabolism and elimination of drugs, the mechanisms of action of drugs, the factors that alter drugs effects, and the adverse effects of drugs. -Achieve students' understanding of mechanisms of action, indications, clinically significant side effects, and drug interactions of different groups of drugs. -Acquiring knowledge about writing prescriptions (Pharmacography).				
Learning outcomes	Learning outcomes (LO) Student:		Learning outcome code	LO on the level of study programme	
	Describes and explains the ways of drug administration.		IU-MFMSE602-1	IU-MSE11	
	Describes and explains the processes of drug distribution in the body.		IU-MFMSE602-2	IU-MSE2	
	Describes and explains the biotransformation and elimination processes important for the therapeutic as well as harmful effects of drugs.		IU-MFMSE602-3	IU-MSE3	
	Describes and explains the role of the autonomic nervous system in the effects of drugs acting on organ systems. Describes and explains the latest therapeutic options in the treatment of motor disorders (antiepileptics, antiparkinsonian drugs), psychotropic diseases (anxiolytics/sedatives/hypnotics, antidepressants, antipsychotics), and other neurodegenerative diseases.		IU-MFMSE602-4	IU-MSE11	
	Describes and explains the pharmacology of ergot alkaloids, histamine, serotonin, NO and ET.		IU-MFMSE602-5	IU-MSE11	
	Identifies general and local anesthetics, and the method of their administration. Evaluates good and bad properties of analgesics and non-steroidal anti-inflammatory drugs and their application in practical settings. Explains the pharmacology of opioid analgesics and addictive substances (heroin, cannabis, psychostimulants, and ethanol).		IU-MFMSE602-6	IU-MSE11	

	Describes the mechanisms of action, indications, clinically significant side effects and interactions of drugs that act on: cardiovascular, digestive, respiratory and endocrine systems.		IU-MFMSE602-7	IU-MSE11
	Analyzes the mechanism of action and application of antibiotics, antiviral drugs, and other chemotherapeutics.		IU-MFMSE602-8	IU-MSE11
	Describes the use of drugs in special groups of patients (children and the elderly).		IU-MFMSE602-9	IU-MSE11
	Describes and explains writing drug prescriptions.		IU-MFMSE602-10	IU-MSE21
Prerequisites for course enrollment	In accordance with the regulation on integrated studies.			
Contents of the subject	Week/type	Theme		
	Lectures	L1. Introduction, absorption, distribution of drugs L2. Metabolism and drug elimination, pharmacokinetics L3. Drug action mechanisms, pharmacodynamics L4. Pharmacology of ANS, cholinergic drugs L5. Pharmacology of ANS, adrenergic drugs L6. Pharmacology of histamine, serotonin, and ergot alkaloids, NO L7. Anxiolytics, sedatives – hypnotics, antiepileptics L8. Pharmacotherapy of most common neurodegenerative diseases L9. Antipsychotics, antidepressants L10. Opioid analgesics L11. General and local anesthetics L12. Addictive substances (heroin, cannabis, psycho stimulants, alcohol) L13. Drugs for hypertension treatment L14. Vasodilators in angina pectoris treatment L15. Diuretics L16. Drugs for heart failure treatment L17. Drugs for treatment of arrhythmias L18. Drugs for asthma treatment L19. Drugs for coagulation disorders L20. Pancreatic hormones and drugs in diabetes treatment P21. Antimicrobial drugs L22. Drugs for malignant diseases treatment L23. Immunopharmacology L24. Drugs for peptic disease and laxatives L25. Antidiarrhoeal drugs, antiemetics, and inflammatory bowel disease drugs		
	Seminars	S1. New drug discoveries, generic drugs, and pharmacogenomics S2. Drug's final outcome in the organism S3. Actions of drugs, mechanisms of side effects S4. Cholinergic drugs S5. Adrenergic drugs S6. Anxiolytics, antiepileptics, neurodegenerative diseases S7. Antipsychotics, antidepressants S8. Nonsteroidal anti-inflammatory drugs, antirheumatics S9. Pain treatment S10. General and local anesthetics S11. Antihypertensives, drugs in angina pectoris treatment S12. Drugs in cardiac insufficiency treatment S13. Drugs for treatment of arrhythmias S14. Drugs for treatment of dyslipidemias S15. Drugs for treatment of anemias and hematopoietic growth factors S16. Hormones of hypothalamus, pituitary gland, thyroid gland, and osteoporosis S17. Hormones of the adrenal gland cortex and their antagonists		

		S18. Sex hormones and their inhibitors S19. Drugs in diabetes treatment S20. Most important antibiotics S21. Drugs in treatment of fungi, protozoa, and helminths S22. Drugs for viral and TBC infections S23. Application of drugs in children and elderly patients S24. Drug interactions and side effects S25. Pharmacology of the digestive system									
	Exercises	E1. Pharmacokinetics and pharmacodynamics E2. ANS, isolated muscle E3. Psychopharmacology drugs E4. Analgesics E5. Effects of drugs on cardiovascular system E6. Isolated organs as pharmacological models E7. Dose calculations, ways of different drug administration									
Language	English										
E-learning	Classes are conducted in person. If necessary, lectures and seminars can be held in combination (live and online) or completely online via e-learning platforms (Google Meet) up to maximum of 20%.										
Teaching methods	Teaching, interactive and active-experiential.										
Forms of knowledge testing											
Type of pre-exam obligation					Type of exam						
midterm	seminar paper	Essay/report	practical/project assignment	other	written	oral	practical				
Allocation of ECTS points and share in the total grade											
Student obligations		Learning outcome code	Hour load		ECTS share		Grade share				
Attending classes			135		4,5						
Midterm/Written colloquium, pharmacography		IU-MFMSE602-10	15		0,5						
Partial exams/Written exam		IU-MFMSE602-1 IU-MFMSE602-2 IU-MFMSE602-3 IU-MFMSE602-4 IU-MFMSE602-5 IU-MFMSE602-6 IU-MFMSE602-7 IU-MFMSE602-8 IU-MFMSE602-9	90		3		50%				
Oral exam		IU-MFMSE602-1 IU-MFMSE602-2 IU-MFMSE602-3 IU-MFMSE602-4 IU-MFMSE602-5 IU-MFMSE602-6 IU-MFMSE602-7 IU-MFMSE602-8 IU-MFMSE602-9	90		3		50%				
Total			330		11		100%				
How to calculate the final grade											
According to the Study Regulations, the final grade is obtained as follows: 0-54% insufficient (1) 55-66% sufficient (2) 67-78% good (3) 79-90% very good (4) 91-100% excellent (5).											
Literature	Title (title, author, year)	Edition		Language				Type of literature			
		own	other	Cro.	Engl.	other	Multi.	book	article	script	other
Mandatory	Bertram G. Katzung, Susan B. Masters, Anthony J. Trevor: Basic		x	x	x			x			

	and Clinical Pharmacology 2020.										
	V. Bradamante, M. Klarica, M. Šalković-Petrišić: Farmakološki priručnik, Medicinska naklada, Zagreb, 2008.		x	x				x			
Complementary	H.P. Rang, M.M. Dale, J.M. Ritter, P.K. Moore Pharmacology, 2006.		x	x	x			x			
	Study materials from lectures (handouts etc.)		x	x	x						x
Additional information about the subject:											
The exam consists of two partial written exams that are organized during the Pharmacology class. Only students who have passed both partial exams can take the oral exam. Students who did not pass a single partial exam during class will have to take the full test on next terms. Also, to take the final exam in Pharmacology, the student must pass a written colloquium in Pharmacography where the skill of writing a doctor's prescription is tested. The colloquium is organized immediately after the Pharmacography round. If the student did not pass Pharmacography at that time, the students can take it during regular outings for the final exam, where a successful result of the colloquium is a prerequisite for taking the Pharmacology exam. In order to take the final exam, certification of class attendance and fulfillment of other obligations during Pharmacology classes in the ISS system is an obligatory condition.											

Study programme	MEDICAL STUDIES IN ENGLISH					
Cycle	INTEGRATED	Type	UNIVERSITY			
Course	-	Module	-			
Year of study	3	Semester	VI			
Course name	CLINICAL PROPEDEUTICS	Course code	MFMSE603			
ECTS	6	Status	OBLIGATORY			
Number of teaching hours			Lectures	Exercises	Seminars	Practical
			30	70	10	0
Teachers	Prof. Kristina Galić, MD, PhD		6			
	Asst. Tanja Zovko, MD, PhD			10		
	Prof. Emil Babić, MD, PhD		4			
	Prof. Ante Mandić, MD, PhD		4			
	Asst. Prof. Maja Karin, MD, PhD		4			
	Asst. Prof. Fila Raguž, MD, PhD		4	10	2	
	Asst. Prof. Vedrana Gačić, MD, PhD		2			
	Asst. Prof. Ante Bogut, MD, PhD		4			
	Prof. Danijel Pravdić,MD, PhD		2			
	Asst. Jelena Sulić,MD			10		
	Asst. Josip Petrović,MD			10	2	
	Asst. Ivan Tomić, MD			10	2	
	Asst. Helena Markotić, MD,			10		
	Asst. Belma Sarić, MD			10		
	Senior Asst. Sanja Bevanda, MD				2	
	Senior. Asst. Marija Goluža, MD				1	
	Asst. Marina Vasilj, MD				1	
Course objectives	The goal of the clinical propaedeutics course is: - to achieve the knowledge and skills necessary to recognize the leading signs and syndromes in the field of internal medicine. - to train the student to independently take anamnesis, clinical examination of the patient, and teach them how to communicate with the patient and his family. - to train students for clinical reasoning, analysis of obtained findings, identification of problems and decision-making					
Learning outcomes	Learning outcomes (IU) Student:			Code of learning outcomes	Code IU at the level of the study program	
	Describes the basics and principles of clinical propaedeutics and its significance as the basis of all branches of clinical medicine.			IU-MFMSE603-1	IU-MSE1 IU-MSE7	
	Connects and applies knowledge about clinical, laboratory and imaging features of the disease, as well as think about and conclude with differential diagnostics.			IU-MFMSE603-2	IU-MSE8	
	Takes anamnesis and performs a clinical examination of the patient.			IU-MFMSE603-3	IU-MSE14	
	Recognizes leading signs and symptoms in internal medicine.			IU-MFMSE603-3	IU-MSE6 IU-MSE14	
	Communicates with the patient, his family and members of the medical team appropriately.			IU-MFMSE603-5	IU-MSE9 IU-MSE16	
	Explains basic differential diagnoses and basic diagnostic methods in internal medicine.			IU- MFMSE603-6	IU-MSE15 IU-MSE17	
Prerequisites for course enrollment	In accordance with the regulation on integrated studies.					
	Week/Turnus	Theme				

Contents of the course	Lectures	(P1) General propaedeutics, doctor's approach to the patient General propaedeutics. Physician approach to the patient. (P2) The role of science in medicine (P3) Medical error, medical secret, incurable patient. Clinical skills Medical errors, medical secret, Incurable patient. clinical skills, (P4) Evaluation of clinical data Evaluation of clinical data (P5) Meaning of propaedeutics. Clinical reasoning, Analysis of obtained findings, The meaning of propaedeutics. Clinical reasoning, Analysis of findings, (P6) Identifying problems and making decisions, Delicate topics, problem identification and decision making, Delicate topics (P7) Interpretation of findings as a possibility, Development of different hypotheses, Clinical decision making algorithm, Hypothesis testing, Interpretation of findings as a possibility, Development of different hypotheses, Clinical decision making algorithm, Hypothesis testing (P8) Doctor-patient communication: approach to doctor-patient communication (P9) Comprehensive and focused anamnesis, taking anamnesis in special situations (P10) Examination techniques: inspection, palpation, percussion, auscultation Examination techniques: inspection, auscultation, palpation, percussion. (P11) Head and neck status Head examination. Neck examination. (P12) Chest status Thorax examination (P13) Abdominal status Abdominal examination (P14) Limb status Limbs examination, (P15) Examination of the external genitalia (P16) Propaedeutics of cardiovascular diseases (P17) Propaedeutics of respiratory tract Propaedeutics of Respiratory diseases, examination of thorax (P18) Propedeutics of gastroenterology, (P19) Propaedeutics of Liver diseases (P20) Propedeutics of pancreatic diseases (P21) Propaedeutics of nephrological diseases (P22) Propedeutics of immunological diseases (P23) Propedeutics of rheumatological diseases (P24) Propaedeutics of hematological patients (P25) Propaedeutics of Endocrine diseases (P26) Propaedeutics of Metabolic diseases (P27) Propedeutics of neurological diseases (P28) Laboratory diagnostics (P29) Diagnostic methods in internal medicine
	Seminars	(S1) Analysis of the electrocardiographic recording (S2) Chest pain - differential diagnosis (S3) Cough, expectoration, haemoptysis (S4) Urine analysis, lab tests in nephrology (S5) Bleeding from the digestive system (S6) Jaundice - differential diagnosis (S7) Diagnostics in immunological diseases (S8) Diagnostics of hematological diseases (S9) Diabetes mellitus (S10) Importance of arterial hypertension
	Exercises	(V1) medical history (V2) status (V3) heart sounds - auscultation (V4) Measurement of arterial pressure and pulse (V5) Monitoring of acid-base status (V6) central vein placement, brownie (V7) monitoring of central venous pressure (V8) Ecg (V9) Ergometry, coronary angiography (V10) placement of urinary catheter (V11) monitoring of patients in the intensive care unit

	(V12) Spirometry, bronchoscopy (V13) liver biopsy (V14) differential diagnosis of bleeding from the digestive tract, test for occult bleeding, digitorectal examination (V15) monitoring of patients in coronary intensive care (V16) glycemic status of the patient, endocrinological tests (V17) history and status of patients with myocardial infarction (V18) history and status of patients with angina pectoris (V19) history and status of patients with heart failure (V20) history and status of patients with arterial hypertension (V21) history and status of patients with COPD (V22) history and status of patients with asthma (V23) history and status of patients with pneumonia (V24) history and status of patients with lung tumors (V25) history and status of patients with gastrointestinal bleeding (V26) history and status of patients with liver cirrhosis (V27) history and status of patients with liver tumors (V28) history and status of patients with icterus (V29) history and status of patients with nephrotic syndrome (V30) history and status of patients with nephritic syndrome (V31) history and status of patients with pyelonephritis (V32) history and status of patients with diabetes (V33) history and status of patients with adrenal gland disease (V34) history and status of patients with thyroid disease (V35) history and status of patients with lymphomas (V36) history and status of patients with leukemia (V37) history and status of patients with anemia (V38) history and status of patients with rheumatoid arthritis (V39) history and status of patients with SLE (V40) history and status of Sjogren's patients						
Language	English language						
E-learning	Classes are conducted live. If necessary, lectures and seminars can take place combined (live and online) via e-learning platforms (Google Meet) up to a maximum of 20%.						
Teaching methods	Teaching, interactive and active-experiential.						
Forms of knowledge verification (mark-Bold)							
Type of pre-exam requirement					type of exam		
midterm	seminar paper	essay/ paper	practical/project assignment	other	written	oral	practical
Allocation of ECTS points and share in the grade							
Students' obligations		Code of learning outcomes		Hours of workload	Share in ECTS		Share in the grade
Class attendance				110	3,6		0%
Pre-exam /Practical exam		IU- MFMSE603-3 IU- MFMSE603-5		20	0,7		33.33%
Pre-exam/ Written exam		IU- MFMSE603-1 IU- MFMSE603-2 IU- MFMSE603-4		20	0,7		33.33%
Final oral exam		IU- MFMSE603-1 IU- MFMSE603-2 IU- MFMSE603-4 IU- MFMSE603-6		30	1		33.34%
Total				180	6		100 %
Calculating the final grade							
The final grade is obtained as the arithmetic mean of the grades from written exam, practical and the oral exam. A detailed description is given in the additional information about the subject. According to the Study Regulations, the final grade is obtained as follows: 0-54% insufficient (1) 55-66% sufficient (2)							

67-78% good (3)
79-90% very good (4)
91-100% excellent (5).

Literature	Title (title, author, year)	Edition		Language				Type of work			
		own	other	CRO	ENG	other	multilingual	book	article	script	other
Compulsory	Hozo I et al. Internal medicine propaedeutics. Clinical Examination and Communication Skills. Croatia		x	x	x			x			
Additional	Teaching materials		x	x	x			x			

Additional information about the course:

The teaching of clinical propaedeutics consists of 110 hours and is conducted over 4 weeks, including the post-teaching exam period. Teaching consists of lectures, seminars and tutorials.

Knowledge is continuously checked during classes, seminars and tutorials. Students who demonstrate exceptional knowledge at seminars and exercises will be awarded additional points (bonuses) that will be added to the points on the final exam.

To qualify for the oral part of the exam, a student must pass written and practical exam. To pass the test, you need 55% correct answers.

The practical exam consists of several tasks that test the acquired knowledge of history taking, clinical examination of the patient and differential diagnosis.

The oral exam includes parts from general and special clinical propaedeutics. The final exam requires integrative knowledge that is necessary to understand the entire subject, medical practice or to understand other subjects. The condition for taking the oral exam is passing the written test and the practical exam.

The final grade is calculated as the arithmetic mean of the grades achieved in the practical, written and oral part of the exam.

Study programme	MEDICAL STUDIES IN ENGLISH				
Cycle	INTEGRATED	Type	UNIVERSITY		
Study track	-	Module	-		
Year of study	3	Semester	VI		
Course title	PERSONALIZED MEDICINE AND BIOTECHNOLOGY	Course code	MFMSE604		
ECTS	1.5	Status	OBLIGATORY		
Teaching hours		Lectures	Exercises	Seminars	Practice
		10	10	10	0
Teachers	Assoc. prof. Sandra Kostić, PhD	4	4	4	
	Assoc. prof. Vlatka Martinović, MD, PhD	2	2	2	
	Assist. prof. Una Glamočlija, PhD	4	4	4	
Course objectives	The objectives of the Personalized medicine and biotechnology course are: - to provide the student with knowledge about the concepts of personalized medicine and the role of biotechnology, tools for diagnosis and the creation of treatment tailored to each patient; - to train the student to think critically about ethical, social and legal issues related to the use of biotechnology methods and the integration of personalized medicine into the healthcare system.				
Course learning outcomes	Learning outcome (LO) Student:			Course learning outcome code	LO code at the study program level
	- Describes and explains the types of biotechnology, with an emphasis on medical biotechnology and explains the main laboratory methodologies used in personalized medicine			IU- MFMSE604-1	IU-MSE2 IU-MSE5
	- Describes and analyses types of experiments for gain of function genes/proteins or loss of function and the basics of pharmacogenetics and pharmacogenomics			IU- MFMSE604-2	IU-MSE3 IU-MSE7
	- Explains the role of bioinformatics as a crucial tool for storing, analyzing, interpreting and translating data into clinical practice			IU- MFMSE604-3	IU-MSE1 IU-MSE7
	- Describes and analyses examples of personalized treatment for specific chronic diseases			IU- MFMSE604-4	IU-MSE6
	- Describes and explains the challenges related to the integration of personalized medicine into existing health systems, from the perspective of ethics, society and law			IU- MFMSE604-5	IU-MSE12
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	(P1) Introduction to biotechnology (P2) The main aspects of P4 medicine (personalized, predictive, preventive and participatory) (P3) Molecular diagnostics as basis - Laboratory methods for personalized medicine (P4) The basics of pharmacogenomics and pharmacogenetics (P5) Integration of personalized medicine into the existing healthcare system			
	Seminars	(S1) The main aspects of medical biotechnology and personalized medicine (S2) Personalized medicine in oncology (S3) How to make a model - Loss and gain of function experiments (CRISPR/CAS, knock in/out...) (S4) Pharmacogenetics of phase I and II metabolism, transporters and drug targets			

		Examples of personalized medicine based pharmacogenetics (S5) Problems of the integration of personalized medicine into the health care system from the ethical, social and legal aspects									
	Exercises	(E1) Using animal models for drug development (E2) Ethics and genome (E3) Laboratory methods of personalized medicine (sequencing, isolation and analysis of DNA and RNA, cDNA synthesis, qPCR, gene expression analysis, SNP analysis, flow cytometry...) (E4) Systematic reviews on the topic of pharmacogenomics and pharmacogenetics (Cochrane database) (E5) Examples of personalized treatments for specific chronic conditions, Children and personalized medicine									
Language	English										
E-learning	Classes are conducted in person. If necessary, lectures, seminars and part of the tutorials can be combined (in person and online) or completely online via e-learning platforms (Google Meet) up to max 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			30		1						
Seminar paper		IU- MFMSE604-2 IU- MFMSE604-4 IU- MFMSE604-5	6		0.2		10%				
Pre-exam/Written exam		IU- MFMSE604-1 IU- MFMSE604-2 IU- MFMSE604-3 IU- MFMSE604-4 IU- MFMSE604-5	9		0.3		90%				
In total			45		1.5		100%				
Method of calculating the final grade											
The final grade is obtained as weighting of the grades from the seminar paper (10% of the grade) and the written exam (90% of the grade). According to the Study Regulations, the final grade is obtained as follows: 0-54% insufficient (1) 55-66% sufficient (2) 67-78% good (3) 79-90% very good (4) 91-100% excellent (5).											
Literature (indicate)	Title (title, author, year)	Edition		Language				Type of literature			
		own	other	croatian	english	other	multilingual	book	article	script	other
Compulsory	Jain KK (2015) Textbook of Personalized Medicine, 2nd Edition, Springer.		x		x			x			
	Script Personalized medicine and biotechnology	x		x						x	
Additional	Hays P (2017) Advancing Healthcare Through Personalized Medicine 1st Edition, CRC Press, Taylor & Francis Group		x		x			x			

Additional course information

Students should prepare a seminar paper on a given topic using relevant scientific literature by searching PubMed base for the keywords: Personalized or precision medicine and Disease (ie specific disease/disorder). Also, students should briefly present interesting facts and examples from practice related to the pharmacogenetics of certain enzymes, and discuss the practical application and examples.

Study programme	MEDICAL STUDIES IN ENGLISH				
Cycle	INTEGRATED	Type	UNIVERSITY		
Study track	-	Module	-		
Year of Study	3	Semester	VI		
Course title	SOCIAL MEDICINE	Course code	MFMSE605		
ECTS	2	Status	OBLIGATORY		
Teaching hours		Lectures	Exercises	Seminars	Practice
		20	7	8	0
Teachers:	Prof. Danijela Štimac Grbić, MD, PhD	20	7	8	0
Course objectives	- To provide students with basic knowledge of the concept of population health, including its biological, demographic, and epidemiological determinants, in the context of the influence of social (socioeconomic) and environmental factors, as well as knowledge of the functioning of the healthcare system and its subsystems within all their interactions. - To enable students to recognize the importance of health promotion and disease prevention in reducing the burden of disease in the population, as well as to acquire knowledge of leading strategies for these activities. - To achieve student understanding of treatment outcome indicators in the evaluation of healthcare system performance.				
Course learning outcomes	Learning outcome (LO) Student:			Course learning outcome code	LO code at the study program level
	Analyses and explains major and cornerstone determinants of health and disease within designated population (social-medical diagnostics)			IU-MFMSE605-1	IU-MSE4, IU-MSE5, IU-MSE21
	Explains the role of health system within processes of health protection and diseases treatment			IU-MFMSE605-2	IU-MSE13
	Recognizes and explains major strategies for health promotion or disease prevention			IU-MFMSE605-3	IU-MSE9
	Analyses health outcome indicators in clinical practice			IU-MFMSE605-4	IU-MSE11, IU-MSE21
	Understands and agrees with European concept on patients rights, such as informed consent for medical treatment etc.			IU-MFMSE605-5	IU-MSE12, IU-MSE16, IU-MSE17
	Understands the importance of data gathering and exchange within health statistics			IU-MFMSE605-6	IU-MSE18, IU-MSE19
Prerequisites for the course enrolment	In accordance with the regulations on the integrated study program.				
Course content	Weeks	Topic			
	Lectures	L(1)The concept and scope of social medicine and public health L(2) The concept of health and disease L(3) Social-medical diagnostics L(4) Population needs and demands for healthcare L(5) Introduction to the healthcare system and health policy L(6) Healthcare measures			

		L(7) Network of health institutions and healthcare professionals L(8) Public health problems L(9) Models of healthcare financing L(10) Cost-benefit analysis in healthcare L(11) Assessment of population health status L(12) Health statistics and information system L(13) Primary healthcare based on the concept of family medical practice; impact on population health L(14) Health care planning L(15) Patient rights and obligations in the healthcare system L(16) The status syndrome: how social position affects our health and longevity L(17) Primary social communities and their influence on health L(18) Management in the healthcare system										
	Seminars	S(1) Needs and demands for healthcare S(2) Family, school, workplace and their influence on health S(3) Health literacy and health behavior S(4) Effective public health interventions S(5) The concept of active healthcare in family medicine S(6) Patient rights S(7) Stress and mental health S(8) The hospital as a healthcare institution										
	Exercises	E(1) Stakeholders in the healthcare system E(2) Calculation of socio-medical indicators for a given community E(3) Annual reports on the health status of the population E(4) Basic system of ranking priorities for public health interventions E(5) Communication and active listening E(6) Resource allocation E(7) Indicators of treatment outcomes										
Language	English											
E-learning	Classes are conducted in person. If necessary, lectures, seminars, and part of the exercises may be delivered in a blended format (in-person and online) or fully online via e-learning platforms (Google Meet) up to a maximum of 20%.											
Teaching methods	Lecture methods, demonstration, participatory and interactive methods, case analysis, problem-solving.											
Types of assessment (indicate – Bold)												
Type of pre-examination obligation						Exam type						
midterm	Seminar paper	Essay/report	Practical/project task	Other		Written exam		Oral exam		Practical exam		
ECTS Allocation and Grade Contribution												
Student Obligation		Learning code outcome		Hours of workload		Share in ECTS		Share in grade				
Class attendance		/		35		1.1		/				
Pre-exam/Written exam		IU-MFMSE605- 1,- 2,- 3,- 4,- 5,- 6		25		0.9		100%				
In total				60		2		100%				
Method of calculating the final grade												
According to the Study Regulations, the final grade is determined by summing the points of the practical and oral final exam as follows: A (Excellent, 5): 91–100% B (Very Good, 4): 79–90% C (Good, 3): 67–78% D (Sufficient, 2): 55–66% F (Insufficient, 1): 0–54%												
Literature (indicate)	Title (name, author, year)	Edition		Language				Type of work				
		own	other	croatian	engl	other	multilingual	book	article	script	other	
Compulsory:	Detels R et al. Oxford Textbook of Public	X		X				X				

	Health, 4 th ed. Oxford 2002.										
Additional:	Marmot, M. <i>The Status Syndrome: How Social Standing Affects Our Health and Longevity</i> . Algoritam, Zagreb, 2007, 359 pages, ISBN 978-953-220-353-0.		X	X				X			
Additional Information											
The course <i>Social Medicine</i> consists of a total of 35 hours of contact teaching with students and is conducted during one week, including 20 hours of lectures, 7 hours of exercises, and 8 hours of seminars. The final exam is a written test, which evaluates learning outcomes, i.e., the knowledge and competencies acquired by students after completing the course.											

Study programme	MEDICAL STUDIES IN ENGLISH						
Cycle	INTEGRATED		Type	UNIVERSITY			
Study track	-		Module	-			
Year of study	3		Semester	2			
Course title	UNDERSTANDING CLINICAL TRIALS		Course code	MFMSEI05			
ECTS	1.5		Status	ELECTIVE			
Teaching hours 25				Lectures	Exercises	Seminars	Practice
				0	10	15	-
Teachers	Prof. Ana Marušić, MD; PhD				1		
	Nensi Bralkić, DMD; PhD			2	6		
	Miro Vuković, MD			8	8		
Course objectives	The objective of the course is to strengthen student's knowledge about clinical trial and critical thinking about evidence for health interventions						
Course learning outcomes	Learning outcome (LO) Student:					Course learning outcome code	LO code at the study program level
	To describe the importance and structure of a clinical trial					IU-MFMSEI05-1	IU-MSE7
	To describe basic principles of good clinical practice					IU-MFMSEI05-2	IU-MSE12
	To interpret intention-to-treat and per-protocol analysis					IU-MFMSEI05-3	IU-MSE12
	To identify different clinical trial designs					IU-MFMSEI05-4	IU-MSE7
	To understand the principles of randomization, blinding and bias					IU-MFMSEI05-5	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				
	Day 1		Seminar: Types of Trial Designs Practical: Registering clinical trials				
	Day 2		Seminar: Randomization and Masking Practical: Good Clinical practice				
	Day 3		Seminar: Outcomes and Analysis Practical: Journal club				
	Day 4		Seminar: Reporting results Practical: CONSORT statement				
	Day5		Seminar: Beyond clinical trials Practical: Choosing evidence for clinical practice				
Language	English						
E-learning	Classes are conducted in person. If necessary, lectures, seminars and exercises can be combined (in person and online) or completely online via e-learning platforms (Google-Meet) up to max 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 and participations		15	0.6								
Practical/project task	IU-MFMSEI05-4 IU-MFMSEI05-4	10	0.3	20%							
Written exam	IU-MFMSEI05-1 IU-MFMSEI05-2 IU-MFMSEI05-3	20	0.6	80%							
In total		45	1.5	100%							
Method of calculating the final grade											
Evaluation is descriptive (pass/fail).											
Literature (indicate)	Title (title, author, year)	Edition		Language				Type of literature			
		own	other	Croatian	English	other	multilingual	book	article	script	other
Compulsory	Marušić M, editor. Principles of Research in Medicine. 2nd ed. Zagreb: Medicinska naklada; 2019.		x		x			x			
Additional	Course materials, available in SUMARUM	x									
Additional course information											

Study programme	MEDICAL STUDIES IN ENGLISH						
Cycle	INTEGRATED		Type	UNIVERSITY			
Study track	-		Module	-			
Year of study	3		Semester	6			
Course title	“Test tube” baby		Course code	MFMSEI06			
ECTS	1.5		Status	ELECTIVE			
Teaching hours			Lectures	Exercises	Seminars	Practice	
			8	10	7	-	
Teachers	Full prof., Snježana Mardešić, MD PhD		8	10	7		
Course objectives	Understanding and gaining knowledge about the increasing occurrence of infertility, its causes and treatments.						
Course learning outcomes	Learning outcome (LO) Student:				Course learning outcome code	LO code at the study program level	
	- Describe and explain the most important causes of male and female infertility				IU-MFMSEI06-1	IU-MSE5	
	- Name and explain different types of assisted reproduction techniques				IU-MFMSEI06-2	IU-MSE10	
	- Explain the most relevant achievements in the field of assisted reproduction				IU-MFMSEI06-3	IU-MSE7	
	- Describe and explain the positive and negative sides of assisted fertilization.				IU-MFMSEI06-4	IU-MSE2	
	- Explain the ethical problems related to IVF				IU-MFMSEI06-5	IU-MSE12	
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		Anatomy of genital tract				
			Embryology of genital tract				
			History of test tube baby				
	Seminars		Causes of male and female infertility				
			Surrogacy : moral and ethical issue				
			Types of assisted reproduction techniques				
			IVF and age?				
	Exercises		Sperm selection: What can we learn from mother Nature?				
		Laboratory practice and methodology overview					
Language	English						
E-learning	Classes are conducted in person. If necessary, classes can be combined or completely online via e-learning platforms.						
Teaching methods	Lectures, seminars and exercises						
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		25	0.9	30%							
Essay	IU-MFMSEI06-1 IU-MFMSEI06-2 IU-MFMSEI06-3	10	0.3	30%							
Pre-exam/Written exam	IU-MFMSEI06-1 IU-MFMSEI06-2 IU-MFMSEI06-3 IU-MFMSEI06-4 IU-MFMSEI06-5	10	0.3	40%							
In total		45	1.5	100%							
Method of calculating the final grade											
Evaluation is descriptive (pass/fail).											
Literature (indicate)	Title (title, author, year)	Edition		Language				Type of literature			
		own	other	croatian	english	other	multilingual	book	article	script	other
Compulsory	Assisted Reproductive Technology National Summary Report, US DEPARTMENT OF HEALTH AND HUMAN SERVICES Centers for Disease Control and Prevention, 2014		x		x						x
	Sakkas D, Ramalingam M, Garrido N, Barratt CL. Sperm selection in natural conception: what can we learn from Mother Nature to improve assisted reproduction outcomes? Hum Reprod Update. 2015 Nov;21(6):711-26		x		x				x		
	Pokulniewicz M, Issat T, Jakimiuk A. In vitro fertilization and age. When old is too old? Prz Menopauzalny. 2015 Mar;14(1):71-3		x		x				x		
	Presentations-materials	x			x						x
Additional											
Additional course information											

Study programme	MEDICAL STUDIES IN ENGLISH					
Cycle	INTEGRATED	Type	UNIVERSITY			
Study track	-	Module	-			
Year of study	III	Semester	VI			
Course title	Health promotion and disease prevention in family medicine	Course code	MFMI07			
ECTS	1.5	Status	ELECTIVE			
Teaching hours			Lectures	Exercises	Seminars	Practice
			8	10	7	-
Teachers	Professor Boris Hrabac, MD, PhD,	8	10	7		
Course objectives	• To introduce students to the basics of organizing the work of family medicine teams with the aim of recognizing the possibility of taking responsibility for the health of the people; • To introduce students to the basics of health promotion and early detection of diseases in general, especially in the field of family medicine; • To introduce students to the use of basic epidemiological data from the OM team's information system; • To introduce students to health economics methods (financial motivations) in order to meet health policy goals in family medicine; • To master the competencies for evaluating the outcome of treatment of the most common diseases in family medicine;					
Course learning outcomes	Learning outcome (LO) Student:			Course learning outcome code	LO code at the study program level	
	Understands the importance of family medicine team work procedures for improving the health of the people			IU-MFMSEI07-1	IU-MSE9 IU-MSE12 IU-MSE15	
	Uses epidemiological data from registered patients in the family medicine team to create the team's work program			IU-MFMSEI07-2	IU-MSE10 IU-MSE13	
	Evaluates treatment outcomes within the family medicine team			IU-MFMSEI07-3	IU-MSE11 IU-MSE12	
	Understands the importance of payment methods for the work of OM teams for meeting the goals of protecting the health of the registered population			IU-MFMSEI07-4	IU-MSE15	
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	P(1) Primary health care based on the concept of family medicine practice P(2) Composition and scope of work of the family medicine team; P(3) Health statistics and information system in OM P(4) Public health problems; definition of the problem, size of the problem, intervention measures (primary prevention, screening programs), treatment guide P(5) Mass early detection of diseases and risk factors for the development of non-communicable diseases (NCD) P(6) The concept of treatment outcome and its measurement P(7) Payment for performance (P4P) or reward payment in OM				
	Seminars	S(1) Annual work program of the family medicine team S(2) The role of the “gatekeeper” in cost control S(3) The impact of payment mechanisms for health professionals on cost control, service quality and administration.				

		S(4) Final report of the project: “Testing reward payment for the implementation of a standardized set of preventive and promotional services of family medicine teams in the Federation of Bosnia and Herzegovina”, Federal Ministry of Health; Sarajevo, 2014, 105 pages. S(5) Programs for early detection of risk factors for the development of NCD									
	Exercises	V(1) Registration of patients in family medicine practice; methodology for calculating the headcount and annual team income V(2) Evaluation of the work of family medicine teams based on monthly reporting V(3) Socio-medical indicators in the work of FM teams V(4) Calculation of the headcount amount in FM V(5) Early detection of colon cancer program V(6) Early detection of prostate cancer program V(7) Early detection of cervical cancer program V(8) Early detection of breast cancer program V(9) Preventive treatment program for patients in FM with a focus on NCD									
Language		English									
E-learning		Classes are held live. Online classes are possible for up to 20% of the total course hours.									
Teaching methods		Lecture, demonstration, participatory and interactive methods, case analysis, problem solving									
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		/		25		0.9		/			
Pre-term/Practical exam		IU-MFMSEI07-2		10		0.3		30 %			
Pre-term/Written final exam		IU-MFMSEI07-1,3,4		10		0.3		70%			
In total				45		1.5		100%			
Method of calculating the final grade											
Evaluation is descriptive.											
Literature (indicate)	Title (title, author, year)	Edition		Language				Type of literature			
		own	other	croatian	english	other	multilingual	book	article	script	other
Compulsory	Detels R et al. Oxford Textbook of Public Health, 4th ed. Oxford 2002.		X		x			x			
Additional	WHO Regional Office for Europe Copenhagen: Prevention in primary care. Recommendation for promoting good practice. EUR/ICP/CIND 94 01/PB01		x		x						x
Additional course information											
The subject "Health Promotion and Disease Prevention in Family Medicine" has a total of 25 hours of contact teaching with students and is conducted over the course of one week. The final exam consists of a practical exam and a written final exam. The practical exam involves solving tasks from the practical part of the course, such as socio-medical indicators, treatment outcome indicators, health status indicators, etc. After passing the practical exam and fulfilling other obligations during the course, the student takes the final written exam.											