

SYLLABI OF THE

INTEGRATED UNIVERSITY STUDY PROGRAM

MEDICAL STUDIES IN ENGLISH

FOR THE ACADEMIC YEAR 2024./2025.

Mostar, September 2024

Study	MEDICAL STUDIES	IN ENGLISH				
programme						
Cycle	INTEGRATED	Туре	UNIVERSITY			
Study track	-	Module	-			
Year of study	2	Semester	Ш			
Course title	MEDICAL	Course	MFMSE301			
	CHEMISTRY AND	code				
	BIOCHEMISTRY II					
ECTS	8	Status	OBLIGATORY			
	Teaching hours		Lectures	Exercises	Seminars	Practice
	[42	34	34	0
Teachers	dr. sc. Ivanka Miku	ılić, izv. prof.	20		6	
	dr. sc. Darija Pa	šalić, prof.	10		6	
	dr. sc. Vinka Mi	kulić, doc.	12	6	6	
	Kristina Ljubić,	, v. asist.		8	8	
	Ana Ćuk, v.	asist.		8	8	
	Ivona Cvetkov	ić, asist.		6		
	Ante Pušić.	asist.		6		
Course	- To achieve studer	ts' understand	ling of the functioning of	the organism at	the molecular	evel which is
obiectives	reflected in the nor	rmal function of	of the organs as well as ir	the pathologica	al biochemical p	rocesses in the
	organism.					
	- To achieve studer	nts' understand	ding of the role of natura	l biomolecules ir	the body.	
	- To achieve studer	nts' understand	ding of the dynamics of s	ynthesis and deg	radation of nat	ural
	biomolecules: prot	eins, carbohyd	lrates, lipids and nucleic a	acids.		
	- To achieve studer	nts' understand	ding of the influence of h	ormones on the	function of the	main organ
	systems.	(1.0)				
Course	Learning outcome	(LO)			Lourse	LU code at the
Course	Student:				outcome	level
outcomes					code	
outcomes	Describes and pres	ents the role o	f biomolecules in the hu	man body.	IU-	IU-MSE2
	Describes and evel	ains tha mach	anisms of synthesis and	dogradation of	MFMSE301-1	
	natural macromol	anis the meth aculas: protai	ns carbobydrates linic	degradation of	MFMSE301-2	10-101323
	acids.					
	Explains the princip	oles of regulat	ion and control of cellula	ar metabolism.	IU-	IU-MSE3
	using biochemical	and metabolic	arguments to explain ph	ysiological and	MFMSE301-3	
	pathophysiological	processes.				
	Draws the structur	e of biomolecເ	ıles.		IU-	IU-MSE1
					MFMSE301-4	
	the metabolism of	nder of moles (of ATP that are generated	d/consumed in	IU- MEMSE301-5	IU-IVISE3
	Calculates the char		ntide at a given nH		-	II I-MSF1
		ge of a polype	plide al a given pri.		MFMSE301-6	IO IVISEI
Prerequisites	In accordance with	the Rulebook	on the Integrated Studies	at the School of	Medicine Unive	rsity of Mostar.
for the course						
enrolment						
C	Week / shift	Тор			·	
Course	Lectures:	(L1)	The Conformation and L	Dynamics of Prot	ein Structure	
content		(L2) (L2)	Proteins with Special Fu	nctions: Hemogl	obili, iviyoglobir n Flastin	1
		(14)	Proteins with Special Fu	nctions: Actin N	Avosin	
		(L5)	Plasma Proteins and Imr	munoglobulins	.,	
		(L6)	Vitamins: role and funct	ion		
		(L7)	Coenzyme; Bioenergetic	s: The role of AT	P	

					(L8)	Enzyme catalysis	;				
					(L9)	Metabolism of N	ucleotides				
					(L10) Nucleic Acid Str	ucture & Fun	ction			
					(L11) DNA Organizati	on, Replicatio	n & Repair			
					(L12) RNA Synthesis	, Processing &	& Modification;	Prote	in Syr	nthesis & the
					Gen	etic Code					
					(L13) Regulation of G	ene Expressio	n			
					(L14) Molecular Gene	etics, Recomb	inant DNA & Ge	nomic	Techr	nology
					(L15) Metabolism of 2	Xenobiotics, F	harmacogeneti	CS		
					(L16) Glycolysis					
					(L17) Glycogen: Syntl	nesis and degi	adation			
					(L18) Gluconeogenes	is, Cori cycle				
					(L19) The Pentose Ph	osphate Path	way, Fructose, (Galacto	se	
					(L20) Oxidative decar	boxylation, C	tric acid cycle			
					(L21) The Respiratory	/ Chain & Oxic	lative phosphor	ylation		-
					(L22) Lipids of Physic	ologic Signific	ance; Cholester	ol Synt	hesis	, Transport &
					Excr	etion	0.01				
					(L23) Lipid Transport	& Storage				
					(L24) Uxidation of Fa	tty Acius: Kell	o Sustam			
					(L25) The Diversity Of	tabolism of A	e system mino Acido			
					(L20) Orea Cycle, Me	Antiovidant N	lutrionts			
					(L27) Free Radicals &		o Brovision of I	Motabo	die Eu	olc
	-	Som	inarc:		(L20) Overview of live			hout cr		topics Thoy
		Sem	111015.		AU	ne seminars, stud make presentatio	aents will solv	ve some tasks a	buut sp	chor	topics. They
	F	Evor			(E1)	Qualitativo dotor	ction of proto	iniai topic giver	i by tea	icher.	
		LXEI	cises.		(E1)	Serum protein el	lectrophoresis				
					(L2) (F3)	Ionization prope	rties of amino	, acids			
					(E3) (F4)	Enzyme kinetics	rties of annine				
					(E4) (F5)	Monosaccharide	s and polysac	charides detern	ninatio	n	
					(ES) (E6)	Linids		changes determ	matio		
					(E0) (F7)	Acid-base and m	ineral status i	n organism			
					(E7) (F8)	Qualitative urine	analysis	in organism			
					(E0) (F9)	Creatinine Clear	ance				
					(E10) Human DNA iso	plation				
Language		Engl	ish		x -	,					
E-learning		Class	ses are tal	ken in	person. If nec	essary, lectures,	seminars and	part of the exe	rcises c	an ta	ke place
U		com	bined (live	e and	online) or com	pletely online vi	a e-learning p	latforms (Googl	e Mee	t) up t	o max 20%.
Teaching		Tead	ching, inte	ractiv	e and active-e	xperiential.				<u>· ·</u>	
methods			_			-					
					Types of	assessment (indi	icate - Bold)				
			Type of p	re-exa	amination obli	gation		1	ype of	exam	l
midterm	semir	nar	essay/re	epor	practical/	project task	other	written	ora	al	practical
	pape	er	t					exam	exa	m	
					Allocation of E	CTS credits and s	share in the gr	ade			
Stude	nt obli	gatic	ons		Learning	Hours of w	orkload	Share in EC	TS	Sh	are in grade
				out	tcome code						
Atter	nding c	classe	es			110)	3.7			0%
	Semin	ar				10		0.3			0%
Midtern	n/Collc	oquiu	ım of	IU-I	MFMSE301-1	15		0.5			0%
e	exercis	es		IU-I	VIFMSE301-6						
Pre-exar	n/Writ	tten e	exam	IU-I	MFMSE301-1	105	5	3.5			100%
				1U-N	VIEMSE301-2						
				10-ľ 111₋1	VIFIVISE301-3						
				1-U1	MFMSE301-5						
				. U-I	MFMSE301-6						
		I	n total			240)	8			100%
					Method	of calculating the	e final grade				

The final grad	le is based on the written	exam.	A detail	ed descrip	tion is pr	ovided i	in additional i	nforma	tion abo	ut the c	ase.
Literature	Title	Edi	tion		Lan	guage			Type of l	iteratur	e
(indicate)	(title, author, year)	own	other	croatian	english	other	multilingual	book	article	script	other
Compulsor	Harper's Illustrated		х		х			х			
У	Biochemistry 31st										
	Edition; V. Rodwell, D.										
	Bender, K. Botham, P.										
	Kennelly, PA. Weil;										
	2018.										
	Biochemistry,9th		х		х			х			
	Edition, Berg JM,										
	Tymoczko JL, Gatto Jr.										
	GJ,Stryer L., 2019.										
	Medical chemistry and	х			х					х	
	biochemistry exercises										
	nanopook for medical										
	students, I. Mikulic, N.										
	Jelic Kilezovic, v. Mikulić K. Landoka										
	$\Delta Cuk 2014$										
Additional	Lehninger principles of		x		x			x			
,	biochemistry 8th				~			~			
	Edition, DL. Nelson and										
	MM. Cox, 2021.										
	Scientific papers for		х		х					х	
	seminars, different										
	authors										
	teaching materials		х		х						х
Additional co	urse information										
As it is a basic	c course in a specific field o	of biocl	hemistr	y, in additi	on to the	oretica	l classes, by p	rocessi	ng select	ed diffe	rent
seminar topic	s and solving tasks, the st	udent f	further	expands h	is knowle	dge and	I can demonst	trate th	e ability	to think	K
critically and	recognize the essential ele	ements	of a ce	rtain educ	ational is	sue.	_				
The course in	medical chemistry and bi	ochem	istry II.	contains 1	10 hours	and tak	es over 5 wee	eks, whi	ch also i	ncludes	а
post-class exa	amination period (pre-exa	m). Havar									
Lasses consis	ko tho over the student i	u exert	ired to f	fulfill all th	o othor f	مالمسامه	obligations	attand	classos r	ogularly	
nrenare and i	resent a seminar essav or	s requ	iven tor		rcises in t	he prac	tical part of th	attenu no class	suppor	t thom y	, with
an appropriat	te report and pass the final	al collo	auium						, suppor	t them	WICH
To pass the p	re-exam/written exam (gr	ade su	fficient)	and to pa	rticipate	in the o	ral exam. a st	udent h	nas to an	swer 55	% of
the questions	correctly.						, • •				
According to	the Rulebook on studying	at the	Univers	ity of Mos	tar, grade	es are as	ssigned as foll	ows:			
0-54% insuffi	cient (1);										

55-66% sufficient (2);

67-78% good (3);

79- 90% (very good 4); 91-100% excellent (5).

Study	MEDICAL STUDIES IN ENGLISH								
programme		_							
Cycle	INTEGRATED	Туре	UNIVERSITY						
Study track	-	Module	-						
Year of study	2	Semester							
Course title	MEDICAL GENETICS	Course code	MFMSE302						
ECTS	3	Status	OBLIGATORY						
	Teaching hours		Lectures	Exercises	Seminars	Practice			
	-		20	5	20	0			
Teachers	Professor Jurica . PhD	Arapović, MD,	5	0	0				
	Assoc. prof. Maja PhD	a Arapović,	5	0	0				
	Assist. prof. Božo PhD) Šušak, MD,	5	0	12				
	Assist. prof. Una PhD	Glamočlija,	5	0	0				
	Senior assist. Ma	ja Barbarić,	0	3	4				
	Assist. Martina V	ukoja	0	2	4				
Course	The objectives of	the Medical G	enetics course are:						
objectives	- to introduce me - introduce stude point of view on - describe and ex	edical students ents to concept health and dise plain the basic	with basic facts in medie s in human medical gene ease; s of a comprehensive ap	cal genetics; etics and train the proach to a patier	m to understand g nt with a genetic d	enetics' isease or			
	disorder, or an in	creased risk to	r specific disease.		Course learning	LO codo at			
Course learning	Student:	e (LO)			outcome code	the study program			
outcomes	Describes and ex	plains types of	genetic disorders as ca	uses of diseases	IU- MFMSE302-1	IU-MSE1			
	Describes and e according to gro	explains the ty ups of indication	vpes and outcomes of ons and elaborates the	genetic testing advantages and	IU- MFMSE302-2	IU-MSE3			
	Distinguishes th outcome, and according to th	e effects of g selects the ap e indication a	genetic variability on ppropriate method of nd the genetic cause	the therapeutic genetic testing of the disease,	IU- MFMSE302-3	IU-MSE6 IU-MSE8			
	interprets the ba	sic elements of	f genetic testing findings	•					
	Applies basic cor	nmunication sk	ills in explaining genetic	information.	IU- MFMSE302-4	IU-MSE9			
	Searches diagnos	stic and educat	ional databases of genet	tic diseases.	IU- MFMSE302-5	IU-MSE7			
Prerequisites for the course	In accordance wi	th the Ruleboo	k on the Integrated Stud	ies at the School c	f Medicine Univer	sity of Mostar			
entonnent	Week / shift	Top	ic						
Course	Lectures	(L1)	Introduction to Medical	genetics					
content		(L2)	Functional genomics an	d proteomics					
		(L3)	Genomics and the Hum	an Genome Projec	t				
		(L4)	Pharmacogenomics						
		(L5)	RNA genes and RNAi						
		(L6)	Mutations and aberration	ons					
		(L/)	UNA analysis Mitochondrial inhoritan	co and human day	valanmant				
		(10)	Gene therany Genetica	lly modified organ	uisms (GMO)				
		(110)) Epigenetics						
	Seminars	(S1)	Chromosomes. DNA ana	alysis techniques.					

						(S2)	Inheritance p	patterr	ıs (Mer	idelian an	d Non-	Menc	lelian)	and g	genetic
						couns	elling								
						(S3) A	pplications to	o public	: health	- screening	g and ide	ntific	ation	of popu	lations
						at risk	(,								
						(S4) C	arcinogenesis	s and co	ommon	genetic fa	ctors vrlving h	iman	dicoa	<u>.</u>	
						(35) G	enes and mo	iecular cound (mechar of conge	nital anon	enying nu nalios	iman	uisea	se	
						(S7) G	ene ethics	ounu	Ji conge		lalles				
		Exerc	cises			(E1) lr	ntroduction to	o Cvtos	enetics	laboratory	/				
						(E2) P	rimer design	for ger	etic tes	ting					
						(E3) B	ioinformatics	(datak	oase sea	rch and Ol	MIM)				
						(E4) C	loning, transg	genic a	nimals, g	gene thera	ру				
						(E5) C	dds, probabil	lities, B	ayes' th	eorem.					
Language		Englis	sh												
E-learning		Class	es are	condu	cted in	perso	n. If necessar	ry, lect	tures, se	eminars a	nd part	of th	e pra	cticals o	an be:
		comb	pined (i	n perso	on and	online) or complete	ely onli	ne via e	e-learning	platform	s (Go	ogle	Meet) u	p to a
Teeshing		maxii	mum 2	0%.											
reaching		react	ning, in	teractiv	e and a	active-e	experiential.								
methous					т	vnes of	fassessment	(indica	te - Bolo	I)					
			Type of	pre-ex	aminati	on obli	gation	Indica		•/	T	vpe o	fexan	n	
midterm	sen	ninar	ess	av/	pra	ctical/	project task		other	writ	ten	or	al	prac	tical
	ра	per	rep	ort	•					exa	m	exa	am		
					Allocat	ion of I	ECTS credits a	nd sha	re in the	e grade					
Stude	nt obl	igation	Allocation of ECTS credits and share in the grade ons Learning Hours of workload Share in ECTS Share in grade												
				outo	ome co	de									
Class	atter	ndance						45			1.5				
Pr	oject	task		IU-M	FMSE30	2-4	:	15			0.5			20%	
	-			IU-IVI	FIVISE30	2-5 2-1							-		
Pre-exar	n/Wri	tten ex	am	IU-M	FMSE30	2-2		30			1.0			80%	
				IU-M	FMSE30	2-3									
		In	total				9	90			3			100%	,
					N	/lethod	of calculating	g the fi	nal grad	е					
Evaluation	criter	ria for t	he writ	tten exa	am:										
Final writt	en exa	am													
27-33 = (2));														
33-39=(3)	; \.														
40-45 - (4)), \.														
40-50 - (5)	,														
The studer	nt can	receiv	e a tota	al of 20	points	for the	project assig	nment	(10 poir	nts for the	written	oart a	and 10	points	for the
presentati	on), a	nd the	range	of grade	es is def	fined as	s follows:		(P P P P P P P P P P	
1-10 – (1)			Ū	U											
11-13 - (2))														
14-16- (3)															
17-18 – (4))														
19-20 – (5))														
The final g	grade	is obta	ined as	s a weig	ghting c	of the g	rades from the	he pro	ject assi	gnment (2	20% of th	e gra	ide) ai	nd the v	vritten
exam (80%	of th	e grad	e).												
The grade	is cale	hotelur	as foll	ט <i>ווי</i> גי מי	ade on t	the wri	tten tect v A S	R + ara	de from	the projec	t accionn	nent	xΛγ		
A grade he	low 0	.5 is a g	grade h	elow a	nd a gra	ade hel	ow 0.5 is a gr	ade ah	ove.	the projec		iiciit i	. 0.2.		
				u	0,0										
Literature			Title		Edit	tion		Lan	guage			Ту	be of l	iteratur	9
(indicate)		(title, a	author,	year)	own	other	croatian e	english	other	multilingua	al bool	k a	rticle	script	other

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

Study	MEDICAL STUDIES IN ENGLISH									
programme		Turne								
Cycle	INTEGRATED	Type	UNIVERSITY							
Study track	-	Iviodule	-							
Year of study	2	Semester								
Course title	HISTOLOGY	Course code	MFMSE303							
FCTS	10	Status								
2010	Teaching hours	Status	lectures	Exercises	Seminars	Practice				
			50	41	44	0				
Teachers	Dr.sc.Katarina		16							
	Vukojević,red.pi	rof								
	Dr.sc.Snježana		12	10	10					
	Mardešić, izv pr	of								
	Dr.sc.Sandra Kos	stoć, izv. prof	12	6	10					
	Anita Kolobarić.	v.asist.	5	6	9					
	Maia Barbarićv	asist.	5	6	9					
	Danijela Maroje	vić Glibo		7	2					
	asist.			-	_					
	Leonora Bedeko	vić, asist		6	4					
Course	The objectives o	of this course ar	e to provide informatior	's about morpholo	ogy of human or	gans and				
objectives	development of	human being, t	to synthesize the knowle	edge about the mid	croscopic structu	re and function				
	of human tissue	s that build org	ans and tissues in the hu	ıman body.						
Courses	Learning outcon	ne (LO)			Course	LO code at the				
learning	Student:				outcome code	level				
outcomes	Distinguishes the	e basics of micro	oscopic structure of hum	an body through	IU-	IU-MSE1				
	the microscopic	analysis of hun	nan tissue and organs pr	eparations.	MFMSE303-1					
	Applies the skill	s in microscopi	ic analysis and recogniti	on of important	IU- MFMSF303-2	IU-MSE2				
	Distinguishes an	d describes det	ally organs.	ific embryology	IU-	IU-MSE3				
	Distinguistics an			ine embryology	MFMSE303-3					
	Distinguishes th	e normal body	structure and applies t	he principles on	IU-	IU-MSE4				
	which pathology	/ and pathophy	siology are based.		IVIFIVISE303-4					
	Distinguishes an	d applies know	ledge in human embryol	ogy (recognizing,	IU- MEMSE303-5	IU-INISE5				
	treating and pre	venting develo	pillental disorders).		1111102000 0					
Prerequisites	In accordance w	ith the Ruleboo	k on the Integrated Stud	ies at the School o	f Medicine Unive	rsity of Mostar.				
for the course										
enrolment										
	Week / shift	Торі	ic	· · ·						
Course	Lectures	(L1)	Gametogenesis, the firs	t and second week	of developmen	t i a ma				
content		(LZ)	Empryonic period, foeta	n period and conge	enital maiformat	ions				
		(14)	Formation of blood cells	e lissue						
		(L5)	Development of the ske	letal system						
		(L6)	Development and struct	ture of muscle tiss	ue					
		(L7)	Development and struct	ture of the nervou	s tissue					
		(L8)	Development and struct	ture of the heart a	nd blood vessels					
		(L9)	Development and struct	ture of the lympha	tic system	~				
		(110) Development and stru	cture of the respire	atory system chi	n system				
		(L12) Development of head	and neck	atory system, ski					
		(L13) Development of oral c	avity						
		(L14) Development of body	cavities and struct	ure of alimentar	y canal				

				(L15) Development	and structure of	the gastrointes	tinal tract	
				(L16) Development	and structure of	the glands of th	e gastrointe	stinal tract
				(L17) Development	and structure of	the urinary trac	t	
				(L18) Development	and structure of	, the female repr	oductive sys	stem
				(L19) Development	and structure of	the male repro	, ductive syste	em
				(L20) Development	and structure of	the ear	,	
				(L21) Development	and structure of	the eve		
		Semina	rs	(S1) Menstrual, ova	ian cycle and fei	tilization		
				(S2) The placenta ar	d placental men	nbranes		
				(S3) Covering and a	landular epithe	lium. cells and	intercellular	substance of
				connective tissue		,		
				(S4) Blood cells and	anomalies			
				(S5) Supportive tissu	e-cartilage, adig	ose tissue and l	oone ossifica	ition.
				(S6) Morphological I	ased contractili	tv		
				(S7) The histological	structure of the	, nervous tissue		
				(S8) Structure of the	heart and blood	l vessels, placer	ita	
				(S9) The lymphatic o	rgans, regional l	ymph nodes an	d lymph ves	sels
				(S10) The organizati	on of the endocr	ine glands	, ,	
				(S11) Respiratory m	embranes and sl	cin		
				(S12) Development	and anomalies o	f the organs of t	he head and	d neck
				(S13) Structure of th	e mouth	0		
				(S14) General struct	ure of the alime	ntary canal - oe	sophagus an	d stomach
				(S15) Structure of th	e digestive syste	em - small and la	arge intestin	e, appendix
				(S16) Glands of the	astrointestinal t	ract	0	-, - -
				(S17) Structure of th	e urinary tract			
				(S18) Structure of th	e female reprod	uctive system		
				(S19) Structure of th	e male reproduc	tive system		
				(S20) Structure of th	e ear			
				(S21) Structure of th	e eve			
		Exercis	es	(E1) Preparing prepa	rations for histo	logy		
				(E2) The placenta ar	d umbilical cord	0,		
				(E3) Lining epitheliu	m, unformed co	nnective tissue,	tendons	
				(E4) Smear of bone	marrow and blog	od smear		
				(E5) Hyaline, elasti	and connectiv	e cartilage, de	calcificated	bone. a bone
				specimen, enchondi	al and desmal o	ssification		
				(E6) The skeletal, sm	ooth and cardia	c muscle		
				(E7) Spinal cord, cer	ebrum, cerebellu	um, peripheral r	nerve ganglia	1
				(E8) Heart valves, ar	teries and veins	<i>,</i> , ,	00	
				(E9) Thymus, lymph	nodes, spleen ai	nd palatine tons	il	
				(E10) The pituitary g	land. thyroid gla	nd, adrenal gla	nd, epithelia	l corpuscle
				(E11) The lungs and	trachea. skin. m	ammary gland	-, -	
				(E12) Lip, tip of the	ongue, salivary	and papilla valla	ta	
				(E13) Palate, teeth a	nd tooth develo	pment		
				(E14) The oesophag	us and stomach	•		
				(E15) Small and larg	e intestine, appe	ndix		
				(E16) Liver and pand	reas			
				(E17) Kidney, bladde	er and urethra			
				(E18) Ovary, fallopia	n tube, uterus, v	vagina		
				(E19) Testis, vas def	erens, prostate,	seminal vesicle	and penis	
				(E20) Ear				
				(E21) Eye				
Language		English						
E-learning		Up to 1	.0%.					
Teaching		Teachir	ng, interactiv	e and active-experiential.				
methods								
				Types of assessment (indicate - Bold)			
		Ту	pe of pre-exa	amination obligation	1	1	Type of exan	า
midterm	sei	minar	essay/	practical/project task	other	written	oral	practical
	р	aper	report			exam	exam	

		Allocation			ECTS credi	ts and sha	are in the	e grade				
Student o	bligations	Le	earning	S .	Hour	s of work	load	Share i	n ECTS	S	nare in g	rade
	<u>.</u>	outo	ome co	ode					_			
Attendin	g classes			00.0		135		4	.5		0%	
Pre-exam/W	ritten exam			03-3		90			3		50%	
		10- N	IFMSE3	03-4								
Oral	exam	IU- M	FMSE3	03-3		30			L		20%	
		IU- M	FMSE3	03-4							/ _	
		IU- M	FMSE3	03-5								
Practi	cal exam	IU- M	FMSE3	03-1		45			1.5		30%	
		10- IVI	FIVISE3	03-2								
	In total	I				300		1	0		100%)
				Metho	d of calcula	ting the f	inal grad	e				
The final score	e is the sum of =	= compl	ete wr	itten (5	0%) + pract	tical (20%) + oral (30%) exam.				
A detailed des	cription is give	n in the	additio	onal inf	ormation a	bout the	subject.					
Literature	Title		Ed	ition		Lar	iguage			Type of l	iteratur	е
(indicate)	(title, author,	year)	year) own other		croatian	english	other	multilingual	book	article	script	other
Compulsory	Junqueira's B	asic										
	Histology: Tex	kt and		Х		Х						х
	Atlas, 12th Ec	lition										
	Langman's M	edical										
	Embryology.			х		Х			Х			
	12th edition t	зу										
	Sadier, 1. W.											
Additional	(2011)		v					v				v
Additional	collection:		^					~				^
	Histology Atla	as.										
	2008.	,										
Additional cou	Irse information	n	1					1		1		1
Students are o	bliged to regul	arly att	end an	d active	ly participa	ate in all f	orms of	classes.				
During the cou	urse there will k	be two p	partial	tests (H	1 and H2).	The first	partial te	est (H1) includ	es Gene	eral Emb	ryology	and
development	of the skeletal,	muscul	ar, circ	ulatory	, respirator	ry, nervou	is system	n and skin (Spe	ecial em	bryology	/). Histol	ogical
threads in the	first partial tes	t consis	ts of e	pithelia	l, connectiv	ve, fat, ca	rtilage, b	one, nerve ar	nd musc	le tissue	and vas	cular
system, blood	cells and forma	ation of	blood	cells, ir	nmune, res	spiratory,	neuroen	docrine syste	m and s	kin. The	first par	tial
test consists o	of 60 questions	(30 que	stions	from Er	nbryology	and 30 qu	estions	from Histolog	y).			
The second pa	artial test (H2) in	ncludes	the de	evelopm	ent of bod	ly cavities	, digestiv	ve and urogen	ital syst	em, the	develop	ment
of head and n	eck, ear and ey	e (Speci	al emb	oryology). Histolog	ical threa	ds in the	second partia	al test co	onsists o	f the dig	estive

system, liver, pancreas, urinary system, male and female reproductive system and sensory organs. The second partial test consists of 50 questions (20 questions from Embryology and 30 questions from Histology).

The total percentage of correct answers needed for a positive assessment, 60% of the written tests. For a positive evaluation is also necessary to achieve 50% correct answers from the first and second group of questions from Embryology and from the first and second group of questions from Histology.

For students who didn't pass partial tests, written exam makes a single unit of 110 questions and cannot be taken separately.

Positive mark of preliminary tests is recognized during the current academic year.

All students who weren't absent from school have the right to take partial tests. Also, those who pass additional exam from lectures during which they were not in class or on which they didn't show sufficient knowledge can approach to test.

H1-first partial test

36-41=(2); 42-48=(3); 49-54=(4); 55-60=(5);

H2-second partial test

30-35=(2); 36-40=(3); 41-45=(4); 46-50=(5);

Final written exam

66-76=(2); 77-88=(3); 89-99=(4); 100-110=(5);

Practical and oral exam are available to students who have passed the first and second part of the test in Histology and Embryology.

Practical exam (20% of the final grade)

The practical exam consists of 7 histological samples. Students must at least identify 5 out of 7 samples under the microscope, and then must identify microscopic details on them. The recognition of the samples is scored (maximum 7 points), showing the required structure on the samples (maximum 7 points), and finding the required structure to the samples (maximum 7 points).

13-14 = (2); 15-17 = (3); 18-19 = (4); 20-21 = (5);

Oral examination (30% of the final grade) The oral exam consists of 4 questions (1 general embryology, 1 special embryology, 1 general histology, 1 special histology). Students draw cards with certain issues.

Study	MEDICAL STUDIES IN ENGLISH								
programme		Ture							
Cycle Church a tree allo	INTEGRATED	Type	UNIVERSITY						
Study track	-	Nodule	-						
Year of study		Semester							
Course title	BASIC NEUROSCIENCE	code	MFMSE304						
ECTS	8	Status	OBLIGATORY						
	Teaching hours		Lectures	Exercises	Seminars	Practice			
			20	24	56	0			
Teachers	Prof. Zoran Đogaš, MD,	PhD	7	2	6				
	Prof. Renata Pecotić, MI	D, PhD	4	2	5				
	Prof. Maja Valić, MD, Ph	D	4	2	5				
	Assoc. prof. Ivana Pavlin MD, PhD	ac Dodig,	3	5	13				
	Assist. prof. Nikolina Pra PhD	vdić, MD,	2	5	12				
	Assist. prof. Josip Lesko,	MD, PhD		2	2				
	Assistant Sijana Demirov	ić, MD		6	13				
objectives	 Course objectives are: to provide the s by applying the histology and pl to provide the s internal structu sensory and mode 	tudent with acquired kn nysiology tudent with re of the bra tor systems.	knowledge about the owledge of physics, ch knowledge about mor in, cellular and molect , general and control f	normal function of nemistry, biochem rphology of the bi ular neuroscience unction of the bra	of our nervous histry, biology, a rain in general - , synaptic trans hin, higher brain	system anatomy, external and mission, functions.			
	Learning outcome (LO)				Course	LO code at			
Course learning outcomes	Student:				learning outcome code	the study program level			
	 names, recogni the central ne nervous syster function. 	zes and des rvous syste n as well	cribes the morpholog m, midbrain, end br as spinal cord and	ical features of ain, peripheral explains their	IU- MFMSE304-1	IU-MSE1 IU-MSE2			
	 describes the neurons, expla potential, action 	fundamenta ins the ger n potentials	al electrophysiologica neration of resting t and postsynaptic pote	al features of ransmembrane ntials.	IU- MFMSE304-2	IU-MSE1 IU-MSE2 IU-M3			
	 describes and between neuro and mechanism structure of re- transmission. 	explains th ns, classifie n of action ceptors and	ne way information s and explains the b of neurotransmitters, discusses their role	is transmitted asic properties , describes the in information	IU- MFMSE304-3	IU-MSE1 IU-MSE2 IU-MSE3			
	 describes, expl systems and ap practice. 	ains and ou plies knowle	utlines the organizati edge in solving exampl	on of sensory es from clinical	IU- MFMSE304-4	IU-MSE1 IU-MSE2 IU-MSE3 IU-MSE4 IU-MSE5 IU-MSE6			
	 describes, expl systems and ap practice. 	ains and sl plies knowle	ketches the organiza edge in solving exampl	tion of motor es from clinical	IU- MFMSE304-5	IU-MSE1 IU-MSE2 IU-MSE3 IU-MSE5			
	- describes and	internrets tl	he structure and neu	rophysiological	IU-	IU-IVISE6			
		interprets ti	ie structure and neu	ophysiological					

	features of higher emotions, sexuality, control of breathing	brain functions: learning and memory, wakefulness and sleep, and the neural and heartbeat.	MFMSE304-6	IU-MSE2 IU-MSE3
	 applies knowledge f skills in solving electronic 	rom theoretical classes and demonstrates ophysiological problems on the computer.	IU- MFMSE304-7	IU-MSE1 IU-MSE21
	 applies knowledge f the skills of recordi from the human bod 	rom theoretical classes and demonstrates ng bioelectric (EEG, EMG, EOG) potentials y.	IU- MFMSE304-8	IU-MSE1 IU-MSE21
			•	
Prerequisites for the course enrolment	In accordance with the Rule Mostar.	book on the Integrated Studies at the Scho	ol of Medicine	University of
	Week / shift	Торіс		
Course content	Lectures	 (L1) Introductory lecture (L2) Neuron is a basic structural-functional u (L3) CNS research methods. Development of development reorganization and plasticity 	init of the CNS f the CNS and pr	ocesses of
		(L4) Biophysical basics of excitability(L5) Neurotransmitters in health and disease(L6) Serotonin	ē	
		(L7) General organization of the sensory syst(L8) Physiology of the eye and phototransdu(L9) General structure of the motor systems	tems. Taste and Iction	smell
		(L10) Motor cortex and voluntary movement (L11) Brain lateralization (L12)Control of breathing during, wakefulne	ts	sleen Sleen
		medicine. (L13) General brain function		sicep. sicep
	Seminars	(S1) The structure of gray and white matter (S2) The structure of gray and white matter	of the spinal cor of the brainsten	d n and
		(S3) The structure of gray and white matter (S4) Telencephalon	of the dienceph	alon
		(S5)Neuroanatomy, summary (S6) Cell membrane, ion channels, passive a	nd active neuror	n properties
		(S7) Structure and function of the synapse a	nd the cellular b	asis of
		(S8) Neurotransmitters, neuropeptides and	their receptor	ystems)
		(S9) Electrophysiology of neurons, summary		
		(S10) Pain, neat and cold – anterolateral sen Touch, pressure, and kinesthesia - the dorsa	isory system I column system	1
		(S11) Ear - organ of hearing and balance.		
		Auditory and vestibular system (S12) Organization of the retina, primary v	visual pathway	and primary
		visual cortex (S13) Eye movement and the organization of	f associative visu	ual fields
		(S14) Sensory system, summary		
		pathways from the brainstem in maintaining	g posture and m	uscle tone;
		spinal shock sok (S16) Motor functions of the cerebellum and	d the basal gang	lia
		(S17) Motor system, summary		
		(S18) Organization and structure functions o (S19) Neuropiology of emotion and sevuality	of the limbic syst /	em
		(S20) Anatomy and psychology of learning a	nd memory	
		(S21) Hypothalamus; autonomic and endocr	ine control	
		(S22) Clinical seminar		

			(S23) General brain functions; EEG											
						(S24) S	Stages of wa	kefulne	ess and a	alertness; sle	ер			
						(S25) N	Neurobiolog	y of att	ention a	and associativ	ve fund	tions		
						of the	prefrontal a	ind pos	terior p	arietal cortex	(
		- Lyon				(526)	cellular mec	nanism	s of lear	ning and me	mory	mattara	fthoon	inal
		Exer	cises			(EI) A	ppearance a	na aist	indution	of gray and	white	natter o	n the sp	Indi
						(F2) A	nnoaranco a	nd dist	ribution	of gray and	white	natter o	ftha	
						brains	tem		insution	or gray and	white i	natter o	in the	
						(E3) CI	linical-anato	mic svn	dromes	of the spina	l cord			
						(E4) Re	esting poten	itial						
						(E5) A	ction potent	ial						
						(E6) S	ynaptic pote	ential						
						(E7) Si	gnalization							
						(E8) Re	eflexes and i	reactior	n time					
						(E9) Pł	hysiology of	sensati	on					
						(E10) [Muscle and (electro	nyogra	ohy				
						(E11) E	EEG and evo	kea po	tential					
		Engl	ich			(E12)3	SieepLub POI	iysonni	ograpny					
Ealiguage F-learning		Clas	ses are co	nducte	d in ne	erson If	necessary	lecture	s semi	nars and na	rt of t	he ever	rises ra	n he
Licannig		com	bined (in i	person	and onl	ine) via	e-learning r	blatforn	ns (Goo	gleMeet) – u	up to 2	.0% of c	lasses c	an be
		perf	ormed onl	ine.		,			(8				
Teaching		Tead	ching, inter	ractive a	and acti	ve-expe	riential.							
methods														
					Туре	s of asse	essment (ind	icate - I	Bold)	-				
			Type of p	re-exan	nination	obligat	ion	-		•	Туре	e of exar	n	
midterm	semi	nar	essay/re	port	pra	ctical/pr	tical/project task other written					oral	prac	tical
	рар	er		٨١١	cation	of FCTS	credits and s	shara in	the gra	exam		exam		
Stud	ent oh	ligatio	ns	Learn	ing out	come	Hours c	of work	load	Share ir		Sh	are in g	rade
5144		ngarie	Type of pre-examination obligation Type of examination obligation essay/report practical/project task other written exam oral exam practical exam Allocation of ECTS credits and share in the grade Allocation of ECTS credits and share in the grade Share in ECTS Share in grade ions Learning outcome code Hours of workload Share in ECTS Share in grade ses 100 3.3 0% minars IU-MFMSE304- 1,2,3,4,5,6,7,8 40 1.3 0%											
		classe	es					100		3.3	3		0%	
Atte	ending					A 4		4.0		1 :	n		0%	
Atte Activity	ending / durin	g sem	inars	IU-I	MFMSE3	04-		40		1.3	5			
Atte Activity	ending / durin	g sem	inars	IU-I 1,2	MFMSE3 ,3,4,5,6,	04- 7,8		40		1	5		4000/	
Atte Activity Pre-exa	ending / durin am/Wr	g sem itten	inars exam	IU-I 1,2 IU-I 1 2	MFMSE3 ,3,4,5,6, MFMSE3 3 4 5 6	04- 7,8 04- 7 8		40		3.4	4		100%	
Atte Activity Pre-exa	ending y durin am/Wr	g sem itten	inars exam In total	IU-I 1,2 IU-I 1,2	MFMSE3 ,3,4,5,6, MFMSE3 ,3,4,5,6,	04- 7,8 04- 7,8		40 100 240		3.4	4		100%	
Atte Activity Pre-exa	ending y durin am/Wr	g sem itten	inars exam In total	IU-I 1,2 IU-I 1,2	MFMSE3 ,3,4,5,6, MFMSE3 ,3,4,5,6, Meth	04- 7,8 04- 7,8 od of ca	alculating the	40 100 240 e final g	grade	3.4	4		100%	
Atto Activity Pre-exa The final gi	ending y durin, am/Wr rade is	g sem itten based	inars exam In total I on the re	IU-I 1,2 IU-I 1,2 sult ach	MFMSE3 ,3,4,5,6, MFMSE3 ,3,4,5,6, Meth ieved o	04- 7,8 04- 7,8 od of ca n the wi	alculating the	40 100 240 e final g	grade	3.4	4		100%	
Atte Activity Pre-exa The final gr According	am/Wr rade is	g sem itten basec Ruleb	inars exam In total I on the re ook on the	IU-I 1,2 IU-I 1,2 sult ach	MFMSE3 ,3,4,5,6, MFMSE3 ,3,4,5,6, Meth ieved o ated Stu	04- 7,8 04- 7,8 od of ca n the wr dies at t	alculating the ritten exam. the School o	40 100 240 e final g	rade cine Uni	3.4 8 versity of Mc	5 4 ostar, g	rades ar	100% 100% re assigr	ned
Atte Activity Pre-exa The final gr According as followin	ending y durin am/Wr rade is to the l g:	g sem itten basec Ruleb	inars exam In total I on the re ook on the	IU-I 1,2 IU-I 1,2 sult ach e Integra	MFMSE3 , <u>3,4,5,6,</u> MFMSE3 ,3,4,5,6, <u>Meth</u> ieved o ated Stu	04- 7,8 04- 7,8 od of ca n the wr idies at t	alculating the ritten exam. the School o	40 100 240 e final g	rade Cine Uni	3.4 8 versity of Mc	4 ostar, g	rades ar	100% 100% re assigr	ned
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Atte Activity Pre-exa The final gr According as followin 0-54% insu 55-66% suf 67-78% go 79- 90% (vr 91-100% exa	am/Wr am/Wr rade is to the g: fficient fficient od (3); ery goo	g sem itten basec Ruleb t (1); (2); od 4);	inars exam In total I on the re ook on the	IU-I 1,2 IU-I 1,2 sult ach	MFMSE3 ,3,4,5,6, MFMSE3 ,3,4,5,6, <u>Meth</u> ieved o ated Stu	04- 7,8 04- 7,8 nod of ca n the wr	alculating the ritten exam. the School o	40 100 240 e final g	rade cine Uni	3.4 8 versity of Mc	4 ostar, g	rades ar	100% 100% re assigr	ned
Atte Activity Pre-exa The final gr According as followin 0-54% insu 55-66% suf 67-78% go 79- 90% (vo 91-100% exa Literature	am/Wr am/Wr rade is to the l g: fficient od (3); ery goo xcellen	g sem itten basec Ruleb t (1); (2); od 4); t (5).	inars exam In total I on the re ook on the	IU-I 1,2 IU-I 1,2 sult ach Integra	MFMSE3 ,3,4,5,6, MFMSE3 ,3,4,5,6, Meth ieved o ated Stu	04- 7,8 04- 7,8 nod of ca n the wr dies at t	alculating the ritten exam. the School o	40 100 240 e final g f Medic	rade tine Uni	versity of Mc	4 ostar, g	rades ar	100% 100% re assign	ned
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Atte Activity Pre-exa The final gr According as followin 0-54% insu 55-66% suf 67-78% go 79- 90% (vo 91-100% ex Literature (indicate)	am/Wr am/Wr rade is to the g: fficient od (3); ery goo xcellen	g sem itten basec Ruleb t (1); (2); bd 4); t (5). (title,	inars exam In total d on the re ook on the ook on the Title , author, ye	IU-I 1,2 IU-I 1,2 sult ach Integra	MFMSE3 ,3,4,5,6, MFMSE3 ,3,4,5,6, Meth ieved o ated Stu	od- 7,8 04- 7,8 nod of ca n the wi idies at t	alculating the ritten exam. the School o	40 100 240 e final g f Medic Lani english	rade cine Uni guage other	versity of Mc	ostar, g	rades ar	100% 100% re assign iteratur script	e other
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Atte Activity Pre-exa The final gr According as followin 0-54% insu 55-66% suf 67-78% goo 79-90% (ve 91-100% ex Literature (indicate) Compulsor	am/Wr am/Wr rade is to the g: fficient fficient od (3); ery goo xcellen y Sie ESS NE	g sem itten basec Ruleb t (1); (2); (1); (2); (1); (2); (1); (2); (2); (1); (2); (2); (2); (2); (2); (2); (2); (2	In total In total I on the re- ook on the ook on the . author, ye and Sapr AL CIENCE, 4 ^t	IU-I 1,2 IU-I 1,2 sult ach e Integra ear) u, H.:	MFMSE3 ,3,4,5,6, MFMSE3 ,3,4,5,6, Meth ieved o ated Stu	ition other x	alculating the ritten exam. the School o	40 100 240 e final g f Medic Eanit english	grade tine Uni guage other	versity of Mc	5 9 0star, g book x	rades ar	100% 100% re assign iteratur script	e other
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	Neuron,Windows Version, A Companion to <i>Neurobiology</i> by Gordon Shepard						
Additional	Purves et al Neuroscience 5 th edition published by Sinauer Associates	х	x		x		
	Kandel, E.R., Schwartz, J.H. and Jessel, T.M.: PRINCIPLES OF NEURAL SCIENCE, 4th edition, McGraw-Hill; New York, SAD, 2000.	x	x		x		
	Guyton, A.C. and Hall: MEDICAL PHYSIOLOGY, 11th edition. 2006.	x	x		х		

Additional course information

The Basic neuroscience course is performed with a total duration of 100 hours, divided into five teaching units (Neuroanatomy, Basics of neuron electrophysiology, Sensory systems, Motor systems, General brain functions). Topics that are covered through lectures, seminars and practical lessons are announced on the beginning of the course, including an indication of the prescribed literature.

Attendance of all forms of instruction is obligatory (except the attendance of individual consultations), and all students are obligated to study the prescribed material IN ADVANCE for seminars and practical lessons, using the main textbook and/or the additional literature.

Activity at the seminars is rewarded with pluses, whilst not being prepared will be marked as a minus. All absences and minuses have to be compensated through a colloquium at least 2 days before the exam. Students not taking the exam in the pre-exam period have to take a colloquium in a 10 days period after the end of the Basic neuroscience course, in order to compensate their absences and minuses.

Neuroscience is tested in the form of written exam that consists of 100 multiple answer questions with only one answer being correct. Each correct answer carries one point. In order to pass the exam (grade sufficient), the student must answer 55% of the questions correctly.

The final grade is based on the result achieved on the written exam.

Study	MEDICAL STUDIE	S IN ENGLISH					
programme							
Cycle	INTEGRATED	Туре	UNIVERSITY				
Study track	-	Module	-				
Year of study	2	Semester	Ш				
Course title	CROATIAN LANGUAGE II	Course code	MFMSE305				
ECTS	1	Status	OBLIGATORY				
	Teaching hours		Lectures	E>	kercises	Seminars	Practice
			0		0	25	0
Teachers	Dr. sc. Ivona B	aković, doc.	0		0	25	0
Course objectives	- to apply compete <i>Reference</i> - to recog	grammatical st ence at the A1 a te for Language nize cultural fea	I ructures in the Croatia and A2 levels (according es) atures of the Croatian s	n langua g to the (speaking	ge and vocat Common Eur area	bulary for acqu opean Framew	iring language vork of
Course	Student:	2 (LO)			c	learning outcome code	study program level
outcomes	Applies the basics to the content of	of phonology, the course	morphology and synta	x of the C	CL related	U- //FMSE305-1	IU-MSE14 IU-MSE19
	Demonstrates ba	sic conversatio	nal skills		l N	U- //FMSE305-2	IU-MSE14 IU-MSE19
	Demonstrates rea	ading and writi	ng of simple texts			U-	IU-MSE14
	Applies topic-rela	ted vocabulary	,			UFIVISE305-3	IU-MSE19
		tea vocabalary			N	JFMSE305-4	IU-MSE19
	Recognizes cultur	al features of t	he Croatian speaking a	rea	I N	U- //FMSE305-5	IU-MSE14 IU-MSE19
Prerequisites for the course	In accordance wit	h the Rulebook	on the Integrated Stud	lies at th	e School of N	Aedicine Unive	ersity of Mostar
emonnent	Week / shift	Top	ic				
Course	1.	Pre	sent tense of the moda	l verbs: <i>i</i>	morati, treba	ıti.	
content	2.	Pre	sent tense of the moda	l verbs: s	smjeti, moći,	htjeti.	
	3.	Pre	sent tense (- <i>ovati/-ivat</i>	i > -ujem).		
	4.	Loc	ative case.				
	5.	Pas	t tense of the verb biti.				
	6.	Pas	t tense of the verbs en	ding in -d	iti, -iti, -ovati	, -ivati. Reflex	ve verbs.
	7.	Pas Om	itting the personal pro	nouns in	<i>the</i> nominat	ive case	
	9.	Fut	ure tense.			ive ease.	
	10.	Dat	ive case.				
	11.	Inst	rumental case.				
	12.	Ger	nitive case.				
	13.	The	use of a number in fro	nt of a n	oun.		
	14.	The	concept of possession				
Longuese	15.	The	conditional.				
Language	English	b study rogulat	tions (up to may 20%)				
Teaching	- Teaching	methods	10113 (up to 111dx 20%).				
methods	- Interacti	ve methods					
		Types of	of assessment (indicate	- Bold)			
	Type of pre-	examination ob	ligation			Type of exa	m
midterm sei pa	ninar essay/repor aper	t practical	/project task c	other	written exam	oral exam	practical
		Allocation of	ECTS credits and share	in the g	rade		

Student	obligations	Lea	arning	da	Hours	of workl	oad	Share i	n ECTS	Sh	are in g	rade
Attonding	classes and	outco	-	Jue		25		0	0		20.%	
nrenaring	for the exam					23		0,	U		20 %	
Pre-exam	/final exam	IU-MF	MSE30	05-		5		0	2		80 %	
	, mar exam	1, 2,	, 3, 4, 5	5								
	In total					30		1			100%	
			M	ethod c	of calculati	ng the fin	al grade					
Attending clas	sses and preparing	g for the	exam	:								
- irregular arri	ivals = 0% of the f	final grad	de	<i>c</i>								
- regular arriv	als without activiti	ies = 11%	% of th	ne final	grade							
- activity only	at the teacher's in	istigatio	n = 14	% of th	e final grad	de						
- self-initiated	l activity = 17% of i	the final	i grade	- 2004 4	of the final	arada						
- sen-milialed	activity with quar	ity discu	ISSION	= 20% (or the final	grade						
Pre evam or f	inal written /oral e	vam·										
less than 55%	correct answers =	= 0% of t	he fin	al grade	2							
55% - 66% co	rrect answers = 44	4% of the	e final	grade	-							
67% - 78% co	orrect answers =56	% of the	e final	grade								
79% - 90% co	rrect answers = 68	3% of the	e final	grade								
91% - 100% c	orrect answers = 8	30% of tl	he fina	al grade	è							
According to t	the Study Regulation	ons, the	final (grade is	obtained	as follow	s:					
0 – 54% insuf	ficient (1)											
55 – 66% suff	icient (2)											
67 – 78% goo	d (3)											
79 – 90% very	/ good (4)											
91 – 100% ex	cellent (5)											
Literature	Title		Edi	tion		Lan	guage			Type of I	iteratur	e
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Study	MEDICAL STUDIES IN ENGLISH							
programme				I				
Cycle	INTEGRATED	Туре		UNIVERSITY				
Study track	-	Module		-				
Year of study	2	Semester		IV				
Course title	MEDICAL PHYSIOLOGY	Course cod	le	MFMSE401				
ECTS	19	Status		OBLIGATORY				
	Teaching hour	S		Lectures	Exercises	5	Seminars	Practice
	Γ			53	40		87	0
Teachers	dr. sc. Danijel Prav	/dić, red. pro	f.	8	0		16	
	dr. sc. Ivan Cavar,	red. prof.		4	0		13	
	dr. sc. Tomislav Ke	elava, izv. pro	of.	10	0		11	
	dr. sc. Joško Božić,	, izv. prof.		7	0		5	
	dr. sc. Vesna Lukir	nović-Skudar,	, izv.prot.	6	0		12	
	dr. sc. Alan Sućur,	doc.		14	0		9	
	dr. sc. Antonio Ma	irkotić, doc.		4	0		18	
	dr. sc. Marko Kum	rić, v. asist.		0	4		3	
	Ana Božić, v. asist.			0	6		0	
	Antea Bulum, v. as	sist.		0	10		0	
	Pavao Planinić, asi	ist.		0	8		0	
	Ivo Krešić, asist.			0	8		0	
	Nikola Jurleta, asis	st.		0	4		0	
objectives	 acquaint student the existing knowl train students to measures 	s with the no edge about t be able to u	ormal functi the functior nderstand p	ions of the organis ning of cells, tissue pathophysiological	sm that main s and organs I mechanisms	tain h ;; s and	omeostasis, a pharmacothe	ind expand rapeutic
Course learning	Learning outcome Student:	(LO)				Cou ou	urse learning Itcome code	LO code at the study program level
outcomes	Describes and ex cardiovascular an whole organism.	plains basic d renal syste	functional ems at the	features of neur level of cell, org	romuscular, an and the	IU-MFMSE401-1		IU-MSE1 IU-MSE2
	Describes and ex gastrointestinal, system at the leve	plains the b endocrinolog I of cell, orga	asic functio gical, repro an and the v	onal features of oductive and her whole organism.	respiratory, natopoietic	IU-M	1FMSE401-2	IU-MSE2
	Analyzes and asso negative and pos physiological pro maintenance of ho	ciates the op sitive feedba cesses in t omeostasis.	peration of o ack system he organis	control mechanisn s to controlled f sm that are neo	ns including factors and cessary for	IU-N	1FMSE401-3	IU-MSE3
	Describes and and there is a deviation the appearance of	alyzes the ch n of the cont f symptoms a	hanges that rolled para and/or signs	t occur in organic meters and relates of the disease.	systems if sthem with	IU-M	1FMSE401-4	IU-MSE4
	Measures the arrow	terial pressu	ire value a	and interprets th	e obtained	IU-N	1FMSE401-5	IU-MSE3 IU-MSE8
	Analyzes and int measurements, st	erprets the ress test and	results of glucose to	f basic respirator lerance.	ry function	IU-N	1FMSE401-6	IU-MSE3 IU-MSE8
	Analyzes and interprets a normal electrocardiographic record. IU-MFMSE401-7							IU-MSE1 IU-MSE21
						6	1.	
Prerequisites for the course	In accordance with	n the Ruleboo	ok on the In	tegrated Studies a	t the School	ot Me	dicine Univers	sity of Mostar.
enroiment	Week / shift	T	onic					
	Week/ shint	10	opic					

Course	Lectures	(L1) Functional organization of human body: transport through cell
content		membranes
		(L2) Basic physics of membrane potentials
		(L3) Excitation of skeletal muscle
		(L4) Contraction of skeletal muscle
		(L5) Excitation and contraction of smooth muscle
		(L6) Physiology of cardiac muscle
		(L7) Overview of the circulation: physics of pressure, flow and resistance
		(L8) Vascular distensibility, functions of the arterial and venous systems, the
		structure of microcirculation
		(L9) Long-term control of arterial pressure: integrated system for arterial
		pressure regulation
		(L10) Hemorrhagic shock and physiological principles of treatment
		(L11) Kidneys: physiological anatomy and function
		(L12) Micturition and diuretics
		(L13) Thirst, integration of renal mechanisms for control of blood volume and
		extracellular fluid volume
		(L14) Mechanics of lungs, Laplace's law, functions of the respiratory
		passageways
		(L15) Regulation od respiration
		(L16) Methods for studying respiratory abnormalities
		(L17) Physiological problems of high-altitude and deep-sea diving
		(L10) The autonomic hervous system and the autenal medulia (110) General principles of gastrointestinal function
		(L13) General principles of gastrointestinal function
		(121) Review and regulation of carbohydrate metabolism formation of ATP
		(122) Review and regulation of lipid and protein metabolism
		(L23) The liver as an organ
		(L24) Dietary balance, regulation od feeding, obesity and starvation, vitamins
		and minerals
		(L25) Body temperature regulation
		(L26) Introduction to endocrinology; principles of secretion, transport, action
		and clearance of hormones
		(L27) Pituitary gland-hypothalamus relation, posterior pituitary hormones
		(L28) Pregnancy, parturition, lactation
		(L29) Erythrocytes and blood types
		(L30) Resistance of the body to infection; leucocytes
	Consinons	(L31) Hemostasis and blood coagulation
	Seminars	(S1) Membrane and action potentials
		(S2) Calulat cycle, regulation of the heart
		(SA) ECG
		(S5) Integration (general physiology potentials muscles and heart)
		(S6) Capillary fluid exchange, local control of tissue blood flow
		(S7) Humoral and nervous regulation of circulation, rapid control of arterial
		pressure
		(S8) Cardiac output and venous return
		(S9) Muscle blood flow and coronary circulation
		(S10) Integration (circulation)
		(S11) The body fluid compartments and volumes and their balance; edema
		(S12) Glomerular filtration, renal blood flow and their control
		(S13) Tubular reabsorption and secretion
		(S14) Regulation of reabsorption in tubules
		(S15) Regulation of extracellular fluid osmolarity and sodium concentration
		(S17) Regulation of renai potassium, calcium and magnesium excretion
		(ST/) ACIO-Dase regulation. respiratory and renal regulation, acidosis and alkalosis
		(S18) Integration (kidneys and body fluids)
		(S19) Pulmonary ventilation
		· · · · · · · · · · · · · · · · · · ·

						(S20) Pulmor (S21) Physica respiratory m	nary circu al princip nembran	llation, pulmo ples of gas ex e	nary edema and change; diffusi	d pleura on of	al fluic gases	l through the
						(S22) Transpo (S23) Integra	ort of oxy tion (res	gen and carb	on dioxide in bl m)	ood an	d tissu	e fluids
						(S24) Secreto	ory funct	ions of the ali	mentary tract:	secretio	on of s	aliva, gastric
						and pancreat	tic secret	ion	oonton <i>u</i> troctubi	locorr	tion	and intectinal
						secretion: ab	sorption	of water and	ions	le secre		ind intestinal
						(S26) Energe	tics and i	metabolic rate	2			
						(S27) Integra	tion (alir	nentary tract a	and metabolism	ı)		
						(S28) Anterio	r pituita Lhormor	ry hormones				
						(S30) Insulin	and gluc	agon				
						(S31) Blood glucose regulation, diabetes mellitus						
						(S32) Calcium	n and ph	osphate metal	bolism, Bone an	d teeth	ı phys	iology
						(S33) Parathy	roid hor	mone, calcito	nin and vitamin	D ons of r	ninor	alocorticoids
						(S35) Adreno	cortical	normones; str	ess		miero	
						(S36) Integra	tion (end	locrinology)				
						(S37) Reprod	uctive ar	nd hormonal f	unctions of the	male		
						(S38) Female	physiolo tion (ron	ogy before pre	gnancy and fem	hale ho	mone	es
	-	Exe	rcises			(E1) Transpo	rt throug	h cell membra	anes			
						Basic physics	of mem	brane potenti	als			
						(E2) Recordir	ng and ve	ectorial analys	is of ECG			
						(E3) Interacti	ve physi	ology 9.0: Car	diovascular syst	em	nula	rata haart
						(E4) Measuri	ing of tr	ie arteriai pr	essure and per	Ipneral	puise	e rate, neart
						(E5) Electroca	ardiogra	m repetition, o	orthostatic test			
						(E6) Kidney p	roblem s	olving, ABS ca	ases			
						(E7) Spirome	try test		с ·			
						(E8) The Astr (F9) OGTT- O	and cycle	e test; Effect o se Tolerance	of exercise on ar	terial p	ressui	re
						(E10) Blood t	vping		Test			
						(E11) Hema	tology	(erythrocyte	count, hemo	globin	and	hematocrit;
						hematologica	al indices	5)				
Language		Eng	lish soc are ta	kon in	norcon	If no coscony	octuros	cominars and	part of the ever		on tak	0 01000
E-learning		com	bined (liv	e and	online) (or completely (online vi	a e-learning p	latforms (Googl	e Meet) up to	e place o a maximum
		20%	ó.		,	F <i>f</i>		01			,	
Teaching		Теа	ching, inte	eractiv	e and ac	tive-experient	ial.					
methods					т.,	nos of occosor	aant (ind	icato Bold)				
			Type of r	ore-ex	aminatic	pes of assessing on obligation	ient (inu	icale - Doiu)	7	vpe of	exam	
midterm	semi	nar	essay/re	port	prac	ctical/project t	ask	other	written	ora		practical
	рар	er							exam	exa	n	
C+					Allocatio	on of ECTS crea	dits and s	share in the gr	ade	тс	Ch-	
Stude	ا ما ما شما	in a ti		1.00	ning outcome code Hour						<u> </u>	
Δtto	ent obl	igatio	ons	Lea	rning ou	tcome code	Hours	0f workload		13	5110	nre in grade
Atte Midterr	ent obl nding n/Colle	igatio class oquiu	ons es um of	Lea	IU- MFM	ISE401-5	Hours	of workload 180 30	6 1	15	5110	0% 0%
Atte Midterr exe	ent obl nding n/Colle rcises -	igatio class oquiu · OSC	ons es um of CE	Lea	IU- MFM	ISE401-5	Hours	of workload 180 30	6 1	13	5110	0% 0%
Atte Midterr exe Pra	ent obl nding n/Colle rcises - nctical	igatio class oquiu · OSC exam	ons es um of CE	Lea	IU- MFM	ISE401-5	Hours	of workload 180 30 30	6 1 1	13	5116	0% 0% 0%
Atte Midterr exe Pra	ent obl nding n/Colle rcises - actical	igatio class oquit · OSC exam	ons es um of E 1	Lea	IU- MFM IU- MFM IU- MFM IU- MFM IU- MFM	ISE401-5 ISE401-6 ISE401-7 ISE401-5	Hours	of workload 180 30 30	6 1 1	13	5110	0% 0% 0% 0%
Atte Midterr Pra Pra Pre-exal exa	ent obl nding n/Colle rcises - nctical m/part	igatio class oquiu · OSC exam ial w 1+P2	ons es um of <u>E</u> n rritten	Lea	IU- MFM IU- MFM IU- MFM IU- MFM IU- MFM IU- MFM IU- MFM	ISE401-5 ISE401-6 ISE401-7 ISE401-5 ISE401-1 ISE401-2	Hours	of workload 180 30 30 180 180	6 1 1 6	13	5116	0% 0% 0% 0% 66,6%
Atte Midterr Pra Pre-exai exa Fin	ent obl nding n/Colle nctical nctical m/part ams (Pi al oral	igatio class oquiu · OSC exam ial w 1+P2 exan	ons es um of E 1 rritten) n	Lea	IU- MFM IU- MFM IU- MFM IU- MFM IU- MFM IU- MFM IU- MFM	ISE401-5 ISE401-6 ISE401-7 ISE401-7 ISE401-5 ISE401-1 ISE401-2 ISE401-3	Hours	of workload 180 30 30 180 150	6 1 6 6 5		5116	O% 0% 0% 0% 66,6% 33,4%

	In total			570 1)		100 %		
		Μ	ethod o	f calculati	ng the fina	al grade					
The final grad	le is obtained as the arith	metic	mean of	f the grade	es from tv	vo parti	al exams and	the ora	l exam (sum of g	grades
from P1, P2 a	nd oral exam divided by 3	3). A de	etailed d	escription	is given i	n the ac	lditional infor	mation	about th	ne subje	ct.
Literature	Title	Edi	tion		Lan	guage		-	Type of I	iteratur	e
(indicate)	(title, author, year)	own	other	croatian	english	other	multilingual	book	article	script	other
Compulsory	A. C. Guyton. J. E. Hall:										
	Medical physiology,										
	14th Edition. Elsevier,		х		х			х			
	Philadelphia, USA,										
	2020										
	Exercises in										
	physiology. Internal										
	edition, Faculty of	х			х					х	
	Medicine University of										
	Mostar, 2020.										
Additional	Lecture notes		х		х						х
	Linda Costanzo:										
	Physiology, 7 th		х		х			х			
	edition, 2021										

Additional course information

Physiology classes contain 180 hours and are taken over 11 weeks, which includes the post-class examination period (preexam). The class is divided into two approximately equal parts: Physiology I (P1) and Physiology II (P2). The teaching consists of

lectures, seminars and exercises. At the end of each week a seminar entitled "Repetition and examination of passed material" is organized. In this part of the course, the topics are repeated and consolidated based on problem solving and test questions.

During classes from seminars and exercises, **knowledge is continuously checked**. To students who demonstrate exceptional knowledge of the learning material covered in the seminar or motivation and understanding in the exercises additional points will be awarded (bonuses), which will be added to the points on the final exam. **Weekly tests** are held at the beginning of each week, and there are 6 weekly tests in total. They contain 20 questions related to the previous week's topics. On these tests, knowledge is evaluated as follows: for a grade of 5, the student receives 2.0 points, for a grade of 4, the student receives 1.5 points, for a grade of 3, student receives 1 point, and for a grade of 2, student receives 0.5 points. The maximum number of additional points that student can earn for one partial exam is 6, and it is obtained on the basis of the sum of points from classes and the results of weekly tests.

Partial exams are held about a week after the lessons from P1 or P2. They consist of 80 test-questions with multiple choice of answers (one of the five offered answers is always correct). To pass the exam (grade sufficient), the student must answer 55% of the questions correctly, i.e., must obtain at least 44 points.

According to the Rulebook on Studying at the University of Mostar grades are assigned as follows:

00-54%(0-43 points) insufficient (1);55-66%(44-53 points) sufficient (2);67-78%(54-63 points) good (3);79-90%(64-72 points) very good (4);91-100%(73-80 points) excellent (5).

The colloquium of the exercises refers to the skill of measuring arterial pressure. The student should demonstrate the ability to measure arterial blood pressure and interpret the measured values The exam is conducted using the Objective Structured Clinical Examination (OSCE) model. Students who do not pass the midterm exam during the course will have to pass it as a part of the practical exam.

The practical exam consists of 15 questions/tasks assessing the understanding of ECG, respiratory analysis, stress tests, OGTT, blood types, ABS and other units that were covered and taught using active-experiential methods during exercises. The exam is divided into two parts, the knowledge of ECG (5 questions/tasks) is evaluated separately, and the remaining parts separately (10 questions/tasks), due to the importance of ECG interpretation for daily practice. The minimum passing requirement is 80% correctly solved tasks for each part individually (in practice – 4 correctly solved tasks from the ECG and

8 correctly solved tasks from the other sections). Students who have not passed the colloquium/midterm of exercises, will take it as the third component of the practical exam.

The partial exams, colloquium and practical exam, when passed, are acknowledged during the academic year.

The oral exam includes the most important, integrative units of overall physiology. In the final exam, it is not details that are required, but integrative knowledge that is essential for understanding the whole subject, medical practice and others courses. The condition for taking the oral exam is that the student has passed all partial exams and the colloquium/practical exam of exercises. Students who have passed the partial exams and the colloquium/practical exam during the class will be admitted in the pre-exam term and subsequent terms (when applicable) directly to the oral exam, which is counted as taking the exam.

The final grade is calculated as the arithmetic mean of the grades obtained on the two partial exams and the grade obtained on the oral exam. That is: (P1+P2+Oral)/3.

Study	MEDICAL STUDIES	IN ENGLISH				
programme						
CYCLE	INTEGRATED	Туре	UNIVERSITY			
Study track	-	Module	-			
Year of study	2	Semester	IV			
Course title	MEDICAL PSYCHOLOGY	Course code	MFMSE402			
ECTS	3.5	Status	OBLIGATORY			
	Teaching hours		Lectures	Exercises	Seminars	Practice
			20	20	20	0
Teachers	dr. sc. Dragan	Babić, prof.	10	0	0	
	dr. sc. Miro Jak	ovljević, prof.	10	0	0	
	dr. sc. Marko P	avlović, doc.	0	7	7	
	dr. sc. Martina Kr	ešić Ćorić, doc.	0	7	6	
	dr. sc. Romana Ba	arbarić. v. asist.	0	6	7	
Course	- To achieve stud	ents' understand	ling of psychological fu	nctions and to exp	and existing kno	owledge about
objectives	the human soul.					
-	- To achieve stude	ents' understandi	ing of medical psycholo	ogy and psychopat	hology	
	Learning outcome	e (LO)			Course	LO code at the
Course	Student:				learning	study program
learning	Describes and over	lains hasis neuch	alogical functions		outcome code	
outcomes	Describes and exp	nams basic psych	lological functions		MFMSE402-1	IU-MSE2
	Describes and exp	lains the basics of	of psychopathology		IU-	IU-MSE4
					MFMSE402-2	IU-MSE5
	Analyzes and con	nects various psy	chological functions an	nd processes that	IU-	IU-MSE2
	help in better und	lerstanding of ps	ychology		MFMSE402-3	IU-MISE7
	Describes and ana	alyzes psychopat	hology		IU- MEMSE402-4	IU-MSE4
	Analyzes and inte	rprets psycholog	zical disorders that are	important for a	IU-	IU-MSE3
	better understan	ding of psychol	logical processes and	overall human	MFMSE402-5	IU-MSE13
	functioning		- .			
Prerequisites	In accordance wit	h the Rulebook o	n the Integrated Studie	es at the School of	Medicine Unive	rsity of Mostar.
for the course						
emoiment	Week/shift 1	Tonic				
Course		1 Introduc	tion to nsychology			
content	Lectures	2. Persona	lity			
		3. Normali	ty			
		4-6. General	psychopathology			
		7. Stress				
		8. Aggressive	eness			
		9,10. Anxiety	1			
		11. Resilience	e - tis a tara la tis a shi s			
		12. Doctor-p	atient relationship	<u>_</u>		
		14 Psycholog	gical manifestations of	serious somatic d	iseases	
		15. Commun	ication with terminally	ill patients		
		16. Psychoth	erapy	I		
		17. Group pr	ocesses in psychology			
		18. The psycl	hology of pain			
		19. Learning	and learning ways			
		20. Doctors	personality			
	Seminars	1. Anxiety	,			
		2. Aggressi	veness (assertiveness)			
		3. Defense	mechanisms			

				4. P	ersonal	ity							
				5. P	ositive	emotions							
				6. N	egative	emotions							
				7. T	hought	disorders							
				8. P	erceptio	on disorder	S						
				9. S	uicidalit	:y							
				10. St	tress in	medicine							
				11. S	pirituali	ty and mer	ntal disoro	ders					
				12. P	sychoth	ierapy							
				13. R	esilienc	е							
				14. T	he relat	ionship be	tween the	e sexes					
				15. D	octor's	personality	/						
				16. P	sycholo	gy and poli	tics						
				17. P	sycholo	gy of sport							
				18. E	motion	s disorders							
				19. H	istory o	of psycholog	gy						
				20. N	lournin	g							
	E	xercises	1-20). Pres	entatio	n of patient	ts with dif	ferent p	osychopatholo	ogies			
Language	E	inglish											
E-learning	C	Classes are ta	ken in	perso	n. If ne	cessary, le	ctures, se	eminars	and part of	the exe	ercises	can take	place
	С	ombined (live	e and o	nline)	or com	pletely onli	ne via e-le	earning	platforms (Go	ogle M	eet) up	to a may	kimum
Taashing	0	or 20% in acco		e with t	ne deci	sion of the	organiza	tional u	nit.				
methods	'	eaching meti	1005 (16	ectures	, prese	ntation, de	monstrat	ion).					
methous				T	vnes of	assessmen	t (indicate	-Bold)					
					, , , , , , , , , , , , , , , , , , , ,	assessmen	e (maioae						
		Type of p	re-exa	minati	on oblig	ation				Τνρε	e of exa	m	
midterm S	Semin	Type of p ar Essay/re	port	minatio Pra	on oblig actical/p	gation project task		other	written	Туре	e of exa oral	m prac	tical
midterm S	emin pape	Type of p ar Essay/re r	port	minatio Pra	on oblig actical/p	gation project task		other	written exam	Туре	e of exa oral exam	m prac exa	tical am
midterm S	emin pape	Type of p ar Essay/re r	pre-exa port A	minatio Pra	on oblig actical/p on of E(gation project task	and share	other	written exam grade	Туре	e of exa oral exam	m prac exa	rtical am
midterm S	emina pape	Type of p ar Essay/re r ations	port A	minatio Pra Illocatio earnin	on oblig actical/p on of E(g	gation project task CTS credits Hours	and share	other e in the s	grade Share in	Type	e of exa oral exam	m prac exa hare in g	rtical am rade
midterm S Student	emina pape	Type of p ar Essay/re r ations	port port A L oute	minatio Pra Illocatio earnin come c	on oblig actical/p on of EC g code	gation project task CTS credits Hours	and share	other e in the ; oad	grade Share in	Type	e of exa oral exam	m prac exi hare in g	rtical am rade
midterm S Student Attend	emin pape oblig	Type of p ar Essay/re r ations asses	port A A L oute	minatio Pra Illocatio earnin come c	on oblig actical/p on of EC g code	ation project task CTS credits Hours	and share s of workl	other e in the ; oad	grade Share in 2	Type	e of exa oral exam	m praces	rtical am rade
midterm S Student Attend Pre-exam,	emina pape oblig oblig	Type of p ar Essay/re r ations asses en exam	Pre-exa Port A L Outo	minatio Pra Illocatio earnin come c 1FMSE4	on oblig actical/p on of EC g :ode 02-1 02-2	gation project task CTS credits Hours	and share s of workl 60 22,5	other e in the j oad	grade Share in 2 0,7	Type	e of exa oral exam	m prac exi hare in g 0 50,0%	rade
midterm S Student Attend Pre-exam, Final	emini pape oblig	Type of p ar Essay/re r ations asses en exam	re-exa port A L outr IU-M IU-M IU-M	minatio Pra Illocatio earnin come c IFMSE4 IFMSE4 IFMSE4	on oblig actical/p on of EC g ode 02-1 02-2 02-3	gation project task <u>CTS credits</u> Hours	and share s of workl 60 22,5 22 5	other e in the ; oad	grade Share in 0,7	Type	e of exa oral exam	m prac exa hare in g 0 50,0%	rtical am grade
midterm S Student Attend Pre-exam, Final	Semina pape : oblig ling cla /writt oral e	Type of p ar Essay/re r ations asses en exam xam	Pre-exa Port A L Outr IU-M IU-M IU-M IU-M IU-M	minati Pra Illocati earnin come c IFMSE4 IFMSE4 IFMSE4 IFMSE4	on oblig actical/p on of EC g ode 02-1 02-2 02-3 02-4	ation project task CTS credits Hours	and share s of workl 60 22,5 22,5	other e in the j oad	grade Share in 2 0,7 0,7	Type Type Tects	e of exa oral exam	m prac exa hare in g 0 50,0%	rade
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Written exam is carried out in the usual way, where students are given questions to which they must give written answers.

Oral exam includes the most important, integrative units of overall medical psychology. The final exam examines detailed integrative knowledge, which is essential for understanding the whole subject, medical practice or for understanding the connection between medical psychology and other subjects.

The final grade is calculated as the arithmetic mean of the grades obtained in the written and the oral exam.

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)

Study	MEDICAL STUDIES IN ENGLISH					
programme		-				
Cycle	INTEGRATED	Туре	UNIVERSITY			
Study track	-	Module	-			
Year of study	2	Semester				
Course title	IMMUNOLOGY	Course code	MFMSE403			
ECTS	4.0	Status	OBLIGATORY			
	Teaching hours		Lectures Ex	kercises	Seminars	Practice
			30	4	16	0
Teachers	Prof. Ivan Ćavai	r, MD, PhD	14	0	4	
	Assoc. prof. Vesn Škudar, MI	a Lukinović-), PhD	10	0	4	
	Assist. prof. Katar MD, Ph	ina Cvitković, D	6	0	0	
	Assistant Jelena	sulić, MD	0	4	8	
Course	The aim of the cou	rse "Immunolo	ogy" is:			
objectives	- to achieve studer	nts' understand	ling of the basic components ar	nd actions o	of the immune s	system in a
	state of health or i	llness				
	- train students to	understand ba	sic interventions (vaccination, in	mmunosup	pression, trans	plantation)
	usage in clinical m	nctioning of th edicine	e immune system in order to co	Inprenena	the importance	e of their
	Learning outcome	(LO)			Course	LO code at
Course	Student:	(-)			learning	the study
learning					outcome	program
outcomes					code	level
	-defines the nom cells, tissues and o	enclature, bas rgans) of innat	ic properties and components e and acquired immunity	s (genes,	IU- MFMSE403-1	IU-MSE2
	-describes the me	chanisms of a	antigen collection and present	tation to	IU-	IU-MSE3
	lymphocytes, as w response	vell as antige	n recognition in the acquired	immune	MFMSE403-2	
	-describes and ana	lvzes T cell-me	diated Immunity and humoral ir	mmunity.	IU-	IU-MSE3
	as well as their exe	cutive mechar	nisms	//	MFMSE403-3	IU-MSE5
	-explains and a	nalyzes the	mechanisms of immune to	olerance,	IU-	IU-MSE5
	autoimmunity, hy	persensitivity	reactions and immune response	onses to	MFMSE403-4	IU-MSE6
	tumors and tissue	transplants, a	and relates their significance to	o clinical		IU-MSE15
	-defines and descr	ihes congenita	and acquired immunodeficien	ries	10-	IU-MSE5
	dennes and deser	ibes congenita		cies	MFMSE403-5	IU-MSE6
						IU-MSE8
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for the course	In accordance with	тпе кијероок	on the integrated Studies at the	e School of I	viedicine Unive	rsity of wostar.
enrolment						
	Week / shift	Тор	ic			
Course	Lectures	(L1)	Innate and acquired imm	nunity, typ	pes of acquir	red immunity,
content		chai	acteristics of acquired immune	responses		
		(L2)	Immune system cells and tis	ssues, revi	ew of immune	e responses to
		(1 2)	Basic characteristics and specifi	icity of inna	ite immune res	ponses cellular
		rece	ptors for microorganisms and c	damaged ce	ells	
		(L4) Components, reactions and role of innate immunity in stimulating				
	acquired immune responses					
		(L5)	Processing and presentation of	f protein ar	ntigens, other re	oles of APS and
		reco	ognition of antigens by B lympho Outokines and chomokines	ocytes		
		(LO)	Cytokines and themokines			

					(L7)	Developme	nt of i	mmune	e repertoire;	Lymph	nocyte	develop	ment,
					emer	gence of div	erse anti	igen rec	eptors, matur	ation a	nd select	ion of T	and B
					lymp	hocytes							
					(L8) F	hases of T ly	mphocy	te respo	onse, antigen r	ecognit	ion and o	costimul	ation,
					bioch	nemical path	ways of ⁻	T lymph	ocyte activatio	on			
					(L9) (Complement	system						
					(L10)	Executive m	nechanisi	ms of T	lymphocyte-m	ediated	d immur	ity	
					(L11)	The executiv	ve mech	anisms	of humoral im	munity			
					(L12)	Tolerance	mediate	d by I	ymphocytes I	3; Tole	rance o	f comm	ensal
					micro	oorganisms a	and fetal	antigen	is; Autoimmur	ity			
					(L13)	Immune res	sponses t	o trans	plants				
					(L14)	Diseases cau	used by a	antibodi	ies, immunoco	mplexe	es and I	lympho	cytes
	-				(L15)	Congenital a	and acqu	ired im	munodeficien			- 114	
	50	eminars			(S1) A	Antigens reco	ognized i	oy I lym	iphocytes, the	way no	DW APC (collect p	rotein
						ens, structur	re and tu	nction o	ors, Antihadia	olecule	es Iumpho	outo rocc	ntorc
					(52) /	Antigenic lym	ipnocyte	of Thum	ors; Antibodie	s and T	iympnoo aad aast	cyte rece imulatio	eptors
					(SS) r	migration in	collular	immuni	ity rosponsos	nugen		iniulatio	n anu
					(\$4)	Phases and		of hun	ny responses	rospo	ncoc c	timulati	on of
					lvmn	hocytes B hy	i types vantigen	or nun		e respe	11303, 3	unuatio	
					(\$5)	Roles of he	lner T l	vmnhoc	vtes and ant	ihodies	in hum	oral im	mune
					respo	noies of he		ympnoe	yees and and	iboules	in nan		mane
					(S6)	Immunologia	cal toler	ance: s	ignificance ar	id mec	hanisms	: Centra	l and
					perip	heral tolerar	nce med	iated by	T lymphocyte	es			
					(S7) I	mmune resp	onses to	, tumors	s i j				
					(S8) 1	Types of hype	ersensiti	vity rea	ctions; Early h	yperser	nsitivity		
	E	xercises			(E1) E	ELISA and im	munoflu	orescer	ice				
					(E2) F	low cytome	try						
Language	E	nglish											
E-learning	C	lasses are h	eld live	e. If ne	cessary	, lectures ar	nd semir	nars can	i take place c	ombine	d (live a	ind onlir	ne) or
	C	ompletely o	nline vi	a e-lear	rning p	latforms (Sur	marum,	Google	Meet) up to a	maxim	um of 20)%.	
Teaching	T	eaching and	intera	ctive m	ethods	•							
methods													
							/• •• •						
-		C		 	pes of	assessment	(indicate	e - Bold)			C		
and talk a sure		Type of	pre-exa	Ty Iminatio	vpes of on obli	assessment gation	(indicate	e - Bold)		Туре	of exan	1	
midterm	semina	Type of r essay/re	pre-exa	Ty Iminatio pra	vpes of on obli ctical/p	assessment gation project task	(indicate	e - Bold) other	written	Туре	of exan	n prac	tical
midterm	semina paper	Type of r essay/re	pre-exa	Ty minatio pra	vpes of on oblig ctical/p	assessment gation project task	(indicate	e - Bold) other	written exam	Туре	of exan oral exam	n prac	tical
midterm	semina paper	Type of r essay/re	pre-exa	Ty minatio pra Allocatio	vpes of on oblig ctical/g on of E	assessment gation project task CTS credits a	(indicate	e - Bold) other e in the	grade	Туре	of exan oral exam	prac	tical
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midterm Studer Atten Pre-exam/f The written correct). To	semina paper nt obliga ding cla ïnal wri exam c pass th	Type of r essay/re ations sses tten exam In total consists of 5 be exam (gra	pre-exa port L outo IU- M IU- M 0 test-o	Ty pra Allocatic earning come cc FMSE40 IFMSE40 IFMSE40 guestio ficient),	ypes of on oblig ctical/g on of E g ode 3-1- 03-5 ethod ns with , the st	assessment gation project task CTS credits a Hours of of calculating n multiple ch	(indicate and share of workle 50 70 120 g the fina noice of a answer	e - Bold) other e in the oad al grade answers 55% of	grade Share in 2.3 4.0 5 (one of the fit the questions	Type	e of exam oral exam Sh sh red answ :ly, i.e. n	praction gradient of the second secon	tical rade
midterm Studer Atten Pre-exam/f The written correct). To least 27 poi	semina paper nt obliga ding cla inal wri exam c pass th nts. Acc	Type of r essay/re ations sses tten exam In total consists of 5 ne exam (gra ording to th	pre-exa port L outo IU- M IU- M IU- M o test- ade suf e Study	Ty pra Allocatio earning come cc FMSE40 IFMSE40 IFMSE40 IFMSE40 ficient), y Regula	vpes of on oblig ctical/g on of E g ode 3-1 – 03-5 ethod ns with , the st ations,	assessment gation project task CTS credits a Hours of of calculating n multiple ch udent must the grade is	(indicate and share of workle 50 70 120 g the fina answer obtained	e - Bold) other e in the oad al grade answers 55% of d as follo	grade Share in Share in Share in 2.3 4.0 5 (one of the fithe questions ows:	Type	e of exan oral exam Sh Sh red ansv :ly, i.e. n	prac prac are in gr 0% 100% 100% wers is a nust obt	tical rade lways ain at
midterm Studer Atten Pre-exam/f The written correct). To least 27 poi 0 – 54% insu	semina paper nt obliga ding cla inal wri exam c pass th nts. Acc ufficient	Type of r essay/re ations sses tten exam In total consists of 5 ae exam (gra ording to th : (1)	pre-exa port L outo IU- M IU- M IU- M IU- M iU- M study	Ty pra Allocatio earning come co FMSE40 IFMSE40 IFMSE40 IFMSE40 IFMSE40 IFMSE40 IFMSE40 IFMSE40	vpes of on oblig ctical/g on of E g ode 3-1 – 03-5 ethod ns with , the st ations,	assessment gation project task <u>CTS credits a</u> Hours of of calculating n multiple ch udent must the grade is	(indicate and share of workle 50 70 120 g the fina answer obtained	e - Bold) other e in the bad al grade answers 55% of d as follo	grade Share in Share in Share in 2.3 4.0 5 (one of the fi the questions ows:	Type	e of exam oral exam Sh Sh cred answ ily, i.e. n	are in gr 0% 100% 100% wers is a nust obt	tical rade lways ain at
midterm Studer Atten Pre-exam/f The written correct). To least 27 poi 0 – 54% insu 55 – 66% su	semina paper nt obliga ding cla inal wri exam c pass th nts. Accoufficient	Type of r essay/re ations sses tten exam In total consists of 5 ne exam (gra ording to th : (1) (2)	pre-exa port L outo IU- M IU- M IU- M O test-i ade suf e Study	Ty pra pra Allocatii earning come co FMSE40 IFMSE40 IFMSE40 M questio ficient), y Regula	vpes of on oblig ctical/g on of E g ode 3-1 – 03-5 ethod ns with , the st ations,	assessment gation project task <u>CTS credits a</u> Hours of of calculating n multiple ch udent must the grade is	(indicate and share of workle 50 70 120 g the fina noice of a answer 1 obtained	e - Bold) other e in the bad al grade answers 55% of d as follo	written exam grade Share ir 1. 2.3 4.0 6 (one of the fithe questions ows:	Type	e of exan oral exam Sh Sh red answ :ly, i.e. n	are in gr 0% 100% 100% wers is a nust obt	tical rade lways ain at
midterm Studer Atten Pre-exam/f The written correct). To least 27 poi 0 – 54% insu 55 – 66% su 67 – 78% gc	semina paper nt obliga ding cla inal wri exam c pass th nts. Acc ufficient ifficient pod (3)	Type of r essay/re ations sses tten exam In total consists of 5 ne exam (gra ording to th : (1) (2)	pre-exa port L outo IU- M IU- M IU- M O test-o ade suf e Study	Ty pra Allocatii earning come cc FMSE40 IFMSE40 IFMSE40 M questio ficient), / Regula	vpes of on oblig ctical/g on of E g ode 3-1 – 03-5 ethod ns with , the st ations,	assessment gation project task CTS credits a Hours of of calculating n multiple ch udent must the grade is	(indicate and share of workle 50 70 120 g the fina noice of a answer obtained	a - Bold) other e in the bad answers 55% of d as follo	written exam grade Share ir 1.7 2.3 4.0 5 (one of the fithe questions ows:	Type	e of exan oral exam Sh intervention red answ :ly, i.e. n	praction gradient of the second secon	tical ade lways ain at
midterm Studer Atten Pre-exam/f The written correct). To least 27 poi 0 – 54% insu 55 – 66% su 67 – 78% gc 79 – 90% ve	semina paper nt obliga ding cla inal wri exam c pass th nts. Acc ufficient od (3) ery good	Type of r essay/re ations sses tten exam In total consists of 5 ne exam (gra ording to th : (1) (2) I (4)	pre-exa port L outo IU- M IU- M IU- M O test-(ade suf e Study	Ty pra Allocatio earning come cc FMSE40 IFMSE40 IFMSE40 ficient), / Regula	vpes of on oblig ctical/g on of E g ode 3-1 – 03-5 ethod ns with , the st ations,	assessment gation project task CTS credits a Hours of of calculating n multiple ch udent must the grade is	(indicate and share of workle 50 70 120 g the fina noice of a answer obtained	e - Bold) other e in the oad al grade answers 55% of d as follo	grade Share in 2.3 4.0 5 (one of the fithe questions ows:	Type	red ansv	prac are in gr 0% 100% 100% wers is a nust obt	tical rade lways ain at
midterm Studer Atten Pre-exam/f The written correct). To least 27 poi 0 – 54% insu 55 – 66% su 67 – 78% gc 79 – 90% ve 91 – 100% e	semina paper nt obliga ding cla inal wri exam c pass th nts. Acc ufficient fficient fficient sood (3) ery gooc excellen	Type of r essay/re ations sses tten exam In total consists of 5 te exam (gra ording to th : (1) (2) I (4) t (5).	pre-exa port L outo IU- M IU- M IU- M IU- M iU- M study	Ty pra pra Allocatio earning come co frMSE40 IFMSE40 IFMSE40 IFMSE40 IFMSE40 IFMSE40 IFMSE40 IFMSE40 IFMSE40	vpes of on oblig ctical/g on of E g ode 3-1 – 03-5 ethod ns with , the st ations,	assessment gation project task CTS credits a Hours of of calculating n multiple ch udent must the grade is	(indicate and share of workle 50 70 120 g the fina noice of a answer obtained	a - Bold) other a in the bad al grade answers 55% of d as follo	grade Share in Share in Share in 1.7 2.3 4.0 5 (one of the fithe questions ows:	Type	e of exam oral exam Sh Sh ity, i.e. n	are in gr o% 100% 100% wers is a hust obt	tical rade lways ain at
midterm Studer Atten Pre-exam/f The written correct). To least 27 poi 0 – 54% insu 55 – 66% su 67 – 78% go 79 – 90% ve 91 – 100% e Literature	semina paper nt obliga ding cla inal wri inal wri exam c pass th nts. Accoufficient od (3) ery good excellen	Type of r essay/re ations sses tten exam In total consists of 5 ne exam (gra ording to the cording to the cordi	pre-exa port L outo IU- M IU- M IU- M O test-o ade suf e Study	Ty mination pra Allocation earning come co FMSE40 IFMSE40 IFMSE40 M question ficient), y Regula	vpes of on oblig ctical/g on of E g ode 3-1 – 03-5 ethod ns with , the st ations,	assessment gation project task CTS credits a Hours of of calculating n multiple ch udent must the grade is	(indicate	a guage	written exam grade Share ir 1.7 2.3 4.0 6 (one of the fi the questions ows:	Type	red answ ily, i.e. n	practor	tical rade lways ain at
midterm Studer Atten Pre-exam/f The written correct). To least 27 poi 0 – 54% insu 55 – 66% su 67 – 78% gc 79 – 90% ve 91 – 100% e Literature (indicate)	semina paper nt obliga ding cla inal wri exam c pass th nts. Acc ufficient ifficient ood (3) ery gooc excellen (tit	Type of r essay/re ations sses tten exam In total consists of 5 ne exam (gra ording to th : (1) (2) I (4) t (5). Title :le, author, y	pre-exa port L outo IU- M IU- M IU- M o test-o ade suf e Study	Ty minatio pra Allocatio earning come cc FMSE40 IFMSE40 IFMSE40 M questio ficient), / Regula	vpes of on oblig ctical/g on of E g ode 3-1- 03-5 ethod ns with , the st ations, ition	assessment gation project task CTS credits a Hours of of calculating n multiple ch udent must the grade is	(indicate and share of workle 50 70 120 g the fina noice of a answer obtained Lan english	e - Bold) other e in the oad al grade answers 55% of d as follo guage other	s (one of the fitthe questions ows:	Type	red ansv ly, i.e. n	praction gradient in gradient	tical ade lways ain at
midterm Studer Atten Pre-exam/f The written correct). To least 27 poi 0 – 54% insu 55 – 66% su 67 – 78% gc 79 – 90% ve 91 – 100% e Literature (indicate) Compulsory	semina paper nt obliga ding cla inal wri exam c pass th nts. Acc ufficient fficient fficient sod (3) ery gooc excellen (tit y Abul	Type of r essay/re ations sses tten exam In total consists of 5 te exam (gra ording to th : (1) (2) I (4) t (5). Title :le, author, y K. Abbas, A	pre-exa port L outo IU- M IU- M IU- M IU- M iU- M iU- M iU- M iU- M	Ty pra Allocatio earning come co FMSE40 IFMSE40 IFMSE40 IFMSE40 IFMSE40 IFMSE40 IFMSE40 IFMSE40 IFMSE40	vpes of on oblig ctical/g on of E g ode 3-1 – 03-5 ethod , the st ations, ition other x	assessment gation project task CTS credits a Hours of of calculating n multiple ch udent must the grade is croatian	(indicate and share of workle 50 70 120 g the fina noice of a answer obtained Lan english	e - Bold) other e in the oad al grade answers 55% of d as follo guage other	s (one of the fit the questions ows:	Type Type DECTS 7 3 Ve offe correct	red answ ly, i.e. n	prace prace are in gr 0% 100% 100% vers is a nust obt	tical rade lways ain at
midterm Studer Atten Pre-exam/f The written correct). To least 27 poi 0 – 54% insu 55 – 66% su 67 – 78% gc 79 – 90% ve 91 – 100% e Literature (indicate) Compulsory	semina paper nt obliga ding cla inal wri exam c pass th nts. Acc ufficient fficient fficient sery gooc excellen (tit Abul H.	Type of r essay/re ations sses tten exam In total consists of 5 te exam (gra ording to th consists of 5 te exam (gra ording to	pre-exa port L outo IU- M IU- M IU- M IU- M IU- M IU- M IU- M IU- M Shiv	Ty pra pra Allocatio earning come cc FMSE40 IFMSE40 IFMSE40 M questio ficient), y Regula	vpes of on oblig ctical/g ode 3-1 – 03-5 ethod ns with , the st ations, ition x	assessment gation project task CTS credits a Hours of of calculating n multiple ch udent must the grade is croatian	(indicate and share of workle 50 70 120 g the fina noice of a answer obtained Lan english	e - Bold) other e in the bad al grade answers 55% of d as follo guage other	grade grade Share in 1.1 2.3 4.0 5 (one of the fithe questions ows: multilingual	Type Type ECTS 7 3 0 ve offe correct	e of exam oral exam Sh red answ :ly, i.e. n	are in gr o% 100% 100% wers is a hust obt	tical rade lways ain at

	Immunology: Functions and Disorders of the Immune System, Sixth edition, Elsevier (Philadelphia, USA), 2020.										
Additional	Teaching materials		х		х						х
Additional co	urse information										
Students are	obliged to regularly atten	d and a	actively	participate	in all for	ms of cl	asses. Studen	ts must	complet	te all cla	sses,
i.e. they can l	pe absent up to the limit p	rescrib	oed by t	he Regulat	ions of th	ie Schoo	ol of Medicine	Univer	sity of M	lostar.	

Study	MEDICAL STUDIES IN ENGLISH											
programme												
Cycle	INTEGRATED	Туре	UNIVERSITY									
Study track	-	Module	-									
Year of study	2	Semester	IV									
Course title	PHYSICAL	Course code	MFMSE404									
	EDUCATION II											
ECTS	0.5	Status	OBLIGATORY			-						
	Teaching hours		Lectures	Exercises	Seminars	Practice						
	[0	25	0	0						
Teachers	dr.sc.lvan Kve	sić, izv.prof.	0	25	0	0						
Course	The aim of the Phy	/sical Education (course is:									
objectives	- Expand s	tudents' knowled	lge about the impact	of kinesiology ac	tivities on the lev	el of health.						
	- To expan	d students' know	vledge about the gene	eral process of ex	ercise as well as t	he						
	conseque	ences of the effect	cts of these processes	on the numan b	ody with special r	eference to						
		d students' know	vledge about ways to	solve problems r	alated to evercise	nrocesses						
	- Train stu	dents for indene	ndent work and expan	nd students' know	wledge about the	importance of						
	exercise i	n everyday life.			medge about the							
	Learning outcome	(LO)			Course learning	LO code at the						
Course	Student:				outcome code	study program						
learning	A 11					level						
outcomes	Applies warm-up e	exercises for a pa	activity.	IU-INIFINISE404-1	IU-MSE21							
	Independently an	alyzes and beco	importance of	IU-MFMSE404-2	IU-MSE21							
	exercise in everyd	ay life.				IU-MSE13						
	It assesses the n	eed and import	ance of daily exercis	se in order to	IU-MFMSE404-3	IU-MSE13						
	preserve health ar	nd improve the q	uality of life.									
	It creates an active	e break (an active	e break between study	IU-MFMSE404-4	IU-MSE13							
	If ee time).	co work babits	and colf discipling		III-MEMSEA0A-5	III-MSE13						
	[
Prerequisites	In accordance with	n the Rulebook o	n the Integrated Studi	es at the School o	of Medicine Unive	rsity of Mostar.						
for the course												
enroiment	Maak / shift	Topic										
Course	1		luctory meeting and f	amiliarization of	students with ohl	igations						
content	2	Struct	ure of the Physical Ed	ucation class	students with obi	igations						
	3.	Gener	al preparatory exercis	ses and their apr	lication							
	4.	Footb	all – futsal 4+1									
	5.	Socce	r – small soccer 5+1									
	6.	Handt	pall - jump shot, play j	n defense, plav i	n attack							
	7.	Volley	ball – organization of	the game								
	8.	Volley	/ball - game	0								
	9.	Baske	tball – basketball 3 vs	3								
	10.	Baske	tball - game									
	11.	Tennis	s – organization of the	e game in pairs								
	12.	Tennis	s – 1 on 1 game									
	13.	Walki	ng tour - organization	of outdoor excu	rsions							
	14.	Repet	ition and improvemer	nt of general pre	paratory exercise	5						
	15.	Repet	ition of the learned co	ontent as chosen	by the students							
Language	English											
E-learning	Sumarum, possib	ility of establish	ing online classes via	a the platform:	Google meet or	Zoom up to a						
	maximum of 20%.											

Teaching methods		 teaching me practical me interactive communica 	ethods ethods methoo tion ab	- prese (exercis ds (cor out the	ntation ses in the h nversation course an	all, exero and agr d mutual	cises in n eement , creative	ature or outd about the cl e ideas about	oors, ex lass and the con	xercises d exerci itents of	in the p ses, dia the exe	ool) logue, rcises)
			Ty	pes of a	assessmen	t (indicat	e - Bold)	1				
midtorm	comina	Type of pre-exa	minatio	on oblig	ation		othor	writton	Туре	e of exan	n 	tical
materm	naner	report	prac	Lical/p	roject task		other	evam		ordi avam	prac	lical
	μαρει	A	llocatio	on of F(TS credits	and shar	e in the	grade				
Student		Learning outcor	ne code	e	Hour	s of work	load	Share ir	n ECTS	Sł	nare in g	rade
obligation	s	0									0	
Attending	3	IU-MFMSE4			25		0.5	5		100 %	, >	
classes an	d	IU-MFMSE4)4-2									
preparing	or	IU-MFMSE40)4-3)4-4									
the practic	al	IU-MFMSE4)4-5									
		In total				25		0.5			100 %	
		III total	M	ethod c	l of calculatio	25 ng the fir	algrade	0	5		100 /)
Attending	lasses a	nd preparing for th	ne prac	tical as	signment/	exam:	ai giuuc					
					0							
Class attend	lance ar	nd class activities:										
- irre	egular a	rrivals = 0% grade										
- mo	ore than	80% attendance at	exerci	ses = 10	00% descri	ptive gra	de					
Exceptionally for students who are exempted from exercises due to health or sports (top athletes) exemptions, students are required to write a seminar paper.												
Writing a se - the - Th	e minar j e paper e work f	paper: is not written = 0% ully meets the form	grade. nal and	conter	it criteria a	nd is gra	mmatica	lly and spellin	ng corre	ct = 100	% grade	
According t 0 – 54% inst 55 – 66% su 67 – 78% go 79 – 90% ve 91 – 100% e	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)											
An exception regular atte	on is the ndance	e subject of Physica at exercises.	al Educa	ation, v	where a de	escriptive	grade o	of "passed" is	include	ed in ac	cordanc	e with
Literature		Title	Edit	tion		Lan	guage		-	Type of I	iteratur	e
(indicate)	(tit	le, author, year)	own	other	croatian	english	other	multilingual	book	article	script	other
Compulsory	Educ Body Activ	ating the Student · : Taking Physical ity and Physical		Х		х			Х			
	Educ	ation to School,										
	Haro	Id W. Kohl III and										
	Heat	ner D. Cook,										
Additional	2013	•										
Additional	ourse in	formation			l	l					I	
- Th	e studer	nt is obliged to regi	larly at	tend e	ercises fro	om the co	urse					
- Th	e condit	ion for entering the	e final d	lescript	ive grade i	s met wi	th the at	tendance of a	t least &	80% of t	he class	es
he	d.			1, 1	0							
- Exc acc	ceptiona cumulat	Il efforts at exercise ion points is 2 plus	es will b in the r	oe rewa ecord.	rded with	addition	al (accun	nulation) plus	es. The	maximu	m numt	per of

- Unexcused absences must be justified with our student doctor and with a request to the course instructor.
- Exempted students are required to write a seminar paper

Study	MEDICAL STUDIES I	N ENGLISH									
programme		T									
Cycle	INTEGRATED	Туре	UNIVERSITY								
Study track	-	Module	-								
Year of study	2	Semester	IV								
Course title	Teratology –	Course code	MFMSEI03	IVIFIVISEIU3							
	taking drugs										
ГСТС	during pregnancy	Status									
ECIS	I.J	Status	ELECTIVE	Evereices	Cominara	Dractico					
	reaching nours		8	7	-						
Teachers	Sandra Kostić, Pl	10	7								
reachers	profes	sor	Ũ	10							
Course	The aim of the cour	se is to unders	and and acquire knowle	edge about the in	fluence of drug	gs on the					
objectives	development of ma	Iformations in	fetus								
	Learning outcome (LO)			Course	LO code at the					
Course learning	Student:				learning	study program					
outcomes					code	level					
	- Describes and	explains the	basics of human dev	elopment and	IU-	IU-MSE1					
	development of ma	lformations			MFMSEI03-1						
	- Identify and descr	ibe developme	ntal malformations		IU-	IU-MSE4					
	- Identify and dev	scribe the mo	st common drugs tak	en during the	IU-	IU-MSE5					
	pregnancy and the	eir mechanism	of action and possibl	e influence on	MFMSEI03-3						
	development of and	omalies									
	- Name and explain	d explain the supplements taken during the pregnancy and their IU- IU-MSE5									
	possible influence o	on development of anomalies MFMSEI03-4									
	- Describe the influe	ence of illegal s	ubstances on the foetal	IU-	IU-MSE5						
					IVIFIVISEI03-5						
Prerequisites	In accordance with	the Rulebook o	n the Integrated Studies	at the School of N	Medicine Unive	rsity of Mostar					
for the course			-			-					
enrolment		1									
_	Week / shift	Тс	pic								
Course content	Lectures	- 1	he basics of the human	development							
		-	he principles of teratolo	ogy and historical	l examples						
		-	evelopmental anomali	silalicy and lactat	enetic and env	ironmental					
		in	fluence			onnentai					
	Seminars	- F	Placenta – blood supply,	the placental ba	rrier						
		- F	harmacokinetics (absor	ption, distributio	n, metabolism	secretion)					
		- 1	Nother diet - Suppleme	nts in diet							
		- 1	The influence of illegal s	ubstances on the	fetal developn	nent					
	Exercises	- \	/arious drugs (narcotics,	, NSAIDs, anxiolyt	ics and antide	pressants,					
		ar	itibiotics, drugs for hear	t and blood vesse	els diseases, cy	tostatic, sex					
		ar	iomalies due to their ac	tion	and examples	or possible					
		- 1	he value of the animal	research of terato	ogens						
		- F	Research of the scientific	c literature, short	movies with te	eratology					
		th	eme								
Language	English										
E-learning	Classes are conduc	ted in person.	If necessary, lectures,	seminars and ex	ercises can be	combined (in					
Tooching	person and online)	or completely o	online via e-learning pla	ttorms (Google-N	leet).						
methods											
methods	l	Types of a	ssessment (indicate - B o	old)							
	Type of pre-ex	amination oblig	gation		Type of exa	im					

midterm	seminar paper	essay/re	eport	pract	ical/pro	oject task		other	writter	written or exam exa		al practical		
	P P P C	1	Allo	ocation o	f ECTS o	credits and	d share ii	n the gr	ade		e.r.a.r.i			
Stude	ent obligatio	ons	Learn	ing outco	ome	Hours	of work	load	Share i	n ECTS	Sh	Share in grade		
Class attendance				code		25			0	0.0				
Class attendance					-3		25		0.	0.8				
				VITIOSEI03	-4		10		0.3	55				
IU-				/FMSEI03	-5									
W	ritten exam		IU- N	/FMSEI03	-1		10		0.3	35				
			IU-N		-2									
			IU- N	VIFIVISEIU3	-3									
			IU- N	VFMSEI03	-5									
		In total					45		1.	5		100 %	6	
				Metho	od of ca	lculating t	he final g	grade						
The final g	rade is deso	criptive, pa	ass/fail.	After co	mpletir	ig the sen	ninar wo	ork and	the written	exam,	student	will pa	ss the	
Literature		Title		Edit	ion		Lan	guage		-	Type of literature			
(indicate)	(title	, author, y	ear)	own	other	croatian	english	other	multilingual	book	article	e of literature ticle script other		
Compulsor	y Embryo	logy, tera	tology,	x	1		x	1			1		x	
	causes	of con	igenital											
	disorde	rs (ppt)	aman's		v		~			~				
	medical	Sadler, T. W. Langman's medical embryology. — 15th ed. Drugs in Pregnancy: Pharmacologic and			x		x			X				
	15th ed													
	Drugs				х		x				х			
	Pharma				Pharmacologic and									
	Physiol	ogic Chang	ges that											
	Affect	Clinical	Care											
	(Emily	A. Pinh	eiro1,2											
	2020	ulerine 5.	Stika),											
	Nutritio	nal Gap	s and		х		x				x			
	Suppler	nentation	in the											
	First 10	00 Days (B	eluska-											
	Turkan	K et al.) 20	019.											
	Prenata	l Suk	ostance		х		х				х			
	Abuse:	Short- and	a Long-											
	Exposed	d Fetus (N	Aarvlou											
	Behnke	, Vincer	nt C.											
	Smith) 2	2013.												
	Macro	nutrient	and		х		х				х			
	Micron	utrient	Intake											
	during	Pregnand	cy: An											
	Overvie	W OT	Recent											
	Al), 201	9	A. el.											
Additional	Drugs D	- During Pre	gnancy		x		x						x	
	and L	actation	, (Third											
	Edition)	, 2015												
	Treatm	ent Optio	ns and											
	Risk Ass	sessment	hri-+-f											
	Edited	DY: (ar Daul	NTISTOT											
	Peters	and Rich	ard K											
	Miller													

	ISBN: 978-0-12-408078- 2										
Additional course information											

Study		MEDICAL STUDIES IN ENGLISH												
programme														
Cycle		INTEG	GRATED	Т	Туре		UNIVERSITY							
Study track		-		Ν	Nodule		-							
Year of stud	y	2		S	Semester		IV							
Course title		HELLO) KIDNEY	C	Course cod	le	MFMSEI04							
ECTS		1.5		S	status		ELECTIVE							
		Teach	hing hour	rs			Lectures		Ex	ercises	Semina	ars	Practice	
			U			ľ	8			10	7		-	
Teachers		Prof.	Katarina	Vukoie	vić. MD. P	hD	8		10	7				
Course		Ohioc	tive of H	ollo Kid	nov is to t	oach	student about r	orma	Lkidnov	dovolonm	ont anato	mu	nhyciology	
ohiectives		and co	ongenita	l anoma	alies of ger	nitou	rinary tract	IUIIIIa	i kiuney	uevelopin	ent, anato	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	priysiology	
00/2011/03		Learn	ing outco	ome (I C))	ntou					Course		LO code at the	
Course learr	ning	Stude	nt:	, inc (20	·)						learning		study program	
outcomes	0										outcome		level	
	-						-		-		code			
		Identi	ity, desc	ribe an	id explain	the	most importa	nt ch	aracteri	stics of		1	IU-MSE1	
		genito	ourinary	system	developm	ient,	anatomy, physi	ology	and str	uctures	VIFIVISEI04-	·1		
	-	At the	e level of	the tiss	ue, organ		vnole body.	N (C) (C)	tombo	auco of 1	11-			
		warrie and explain changes that occur in genitourinary system because of 10- 10-MISE4										10-101324		
	-	Annly	adonted	l knowl	edge to ni	redict	function of ge	hitour	inary sy	stem in 1	U-		IU-MSF4	
		health	n and dis	eases.		curci		ntour	indry 5y	1	MFMSEI04-	-3		
	-													
	-													
Prerequisite	es	In acc	ordance	with the	e Rulebool	k on t	he Integrated St	udies	at the S	chool of M	edicine Ur	niver	sity of Mostar	
for the cours	se													
enrolment			1											
C		Week	: / shift			Торі	c i í							
Course cont	ent	tourn	ament			Deve	velopment of genitourinary tract							
	-	tourn	ament			Fact	tors involved in normal kidney development							
	-	tourn	ament			Con	Benital anomalies of kinney and urinary tract (CAKUT)							
	-	tourn	ament			Kidn	ev anatomy and							
	-	tourn	ament			Criti	cal review of CA	ki it li	iteratur	۹				
Language		Englis	h			Critic								
F-learning		8												
Teaching		Classe	es are co	nducte	d in perso	on. If	necessary, lect	ures,	semina	rs and exe	rcises can	be	combined (in	
methods		perso	n and on	line) or	complete	ly onl	ine via e-learnii	ng plat	tforms (Google-Me	et) up to	max	20%.	
					Types o	of asse	essment (indica	te - Bc	old)					
		٦	Гуре of p	re-exan	nination o	bligat	ion				Type of	exai	n	
midterm	semi	nar	essay/re	port	practi	cal/pi	roject task	ot	ther	written	ora	al	practical	
	рар	er								exam	exa	m		
-				Allo	ocation of	ECTS	credits and sha	re in t	the grad	е				
Stude	nt obli	igation	S	Learn	ing outcoi	me	Hours of w	orkloa	ad	Share ir	n ECTS	Sh	are in grade	
					code						_			
Atter	nding (classes				-	25			0.8	3		100	
Wr	itten e	exam		IU-I	VIENISE 1-3	3	20			0.7	-		100	
		li	total		Mother	1 of c	45	aalar	ade	1.5			100 %	
Evaluation	s docc	rintivo			wiethoo	1 01 C	alculating the fl	iai gra	aue					
	s desci	ipuve												
Literature			Title		Editio	on		Langu	Jage		Typ	e of I	iterature	
							1	0*	0		· / P			

(indicate)	(title, author, year)	own	other	croatian	english	other	multilingual	book	article	script	other
Compulsory	Sadler TW. Langman's		х		х			х			
	Medical Embryology,										
	12th Edition										
	Sapunar D, Saraga Babić		х		х						х
	M. Puljak L, Vukojevic K,										
	Lovric-Kojundzić S, Carev										
	D. Histology atlas on CD.										
	University of Split School										
	of Medicine, Split,										
	Croatia										
	Handouts	х			х					х	
Additional											
Additional co	urse information										